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AMERICAN TOBACCO TYPES USES AND MARKETS

By

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CORRECTION SHEET

U. S. DEPT. OF AGRICULTURE, CIRCULAR 249: AMERICAN TOBACCO TYPES, USES, AND
MARKETS.

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Footnote 2. "This supersedes Bureau of Plant Industry Bulletin 244."

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1910	57,000	811	46,250	7.2	3,323	58.30
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1912	59,000	726	42,840	6.5	2,784	47.19

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(In million pounds, that is, 000,000 omitted)

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1912	42.8	22.6	65.4	33.6

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INTRODUCTION

The production of tobacco is highly localized. The type of tobacco known as Virginia sun cured, for example, is produced in a small group of counties in central Virginia. The characteristics which distinguish this type result from the combination of soil and climatic conditions, method of curing, and variety of seed found only in that section, and these characteristics are so distinctive as to set this type apart from all other types of tobacco. The same is true in greater or less degree of all the 26 types recognized by the official classification of American-grown tobacco (15).³

In addition to the influences of variety, soil, weather, and curing methods in localizing tobacco culture and in differentiating the types, there is the influence of established demand. Over a long period of years the tastes of tobacco consumers have become accustomed to certain qualities. The trade that has developed by catering to these tastes looks to certain well-defined areas for continued supplies of the grades and qualities of leaf upon which depends the continued popularity of the manufactured product. In consequence, markets have been established in those centers of production where each year buyers assemble for the purchase of certain specific kinds of tobacco.

¹ The author is grateful to Claudia Thomson, statistical clerk, division of statistical and historical research, Bureau of Agricultural Economics, for her assistance in preparing the statistical tables herein, several of which represent original research on her part. W. W. Garner, of the Bureau of Plant Industry, and members of the tobacco section have contributed helpful criticisms and suggestions. Valuable assistance has been rendered by M. F. Snider, Chief, Tobacco Division, Bureau of Internal Revenue, and B. D. Hill, Chief, Tobacco Division, Department of Commerce.

² This circular supersedes Bureau of Plant Industry Bulletin 245, The Export and Manufacturing Tobaccoes of the United States, with Brief Reference to the Cigar Types.

³ Italic numbers in parentheses refer to Literature Cited, p. 88.

There has thus resulted a well-defined geography of tobacco production in the United States with the lines of demarcation between different type districts more or less sharply defined. (See pocket map, prepared with the assistance of F. B. Wilkinson and J. V. Morrow, of the Tobacco Section, H. F. Bryant, and other agricultural statisticians of the bureau's field force, and members of the tobacco trade.)

In some instances the line is clear-cut; in others there is a transition zone wherein districts overlap and two or more types of tobacco may be found. In such transition zones that type will predominate for which current demand is greatest.

Intimately associated with this localization of tobacco production by types is its differentiation according to uses and manufacturing qualities. Some types are primarily cigar types; others are primarily cigarette, smoking, chewing, or snuff types. All of them have additional or secondary uses. As some knowledge of the general characteristics and uses of types is essential to an understanding of the general problem of tobacco production in the United States, this circular brings together such facts and statistics as will serve that purpose. Free use has been made of earlier publications in describing types, their uses, and the marketing methods practiced, especially Mathewson's bulletin published in 1912 (11).

Statistics of production herein for the period 1919 to date are based upon revisions by the Division of Crop and Livestock Estimates. Those for previous years have not been revised.

SUPPLY AND DISAPPEARANCE

An attempt has been made in the tables herein to measure not only the annual increments to the supply of leaf tobacco available for manufacturing and export needs but also the amounts by which the supply is annually diminished. For this purpose the stocks of leaf on hand on a given date, year n , plus the crop of that year are taken to indicate the potential supply; potential supply less stocks one year later is taken to represent disappearance. These figures are of great importance. Considered alone they may, through a series of years, indicate a significant trend in the rate of consumption; but the trend of consumption, while increasing, may yet increase at a slower rate than the trend of production, so that it becomes necessary to study the factors of production, supply, and disappearance not only in relation to themselves but in relation to each other. No study of price trends should overlook these varying relationships.

The word "disappearance" is used in preference to consumption. Consumption, strictly speaking, would include tobacco utilized in manufacture, to which might be added that exported, but direct data of tobacco so disposed of and segregated by types are not available. The figures shown under the heading of disappearance are taken to include both tobacco consumed and exported, and the losses in weight due to stemming, redrying, sweating, etc., involved in the reports of stocks on hand. These losses are indeterminate, and no safe rule is known by which allowance for them might be made. Although they do not invalidate the computations as indices of supply and disappearance, they do constitute a weakness that should be

understood. For that reason the nature of the reports on stocks is discussed.

Statistics are published quarterly on the quantity of leaf tobacco in the hands of dealers and manufacturers, according to type. The law applies only to those manufacturers who, according to the returns of the Commissioner of Internal Revenue, during the first three quarters of the preceding calendar year manufactured more than 35,000 pounds of tobacco or snuff, 185,000 cigars, or 750,000 cigarettes; and to all dealers, quasi-manufacturers, growers' cooperative associations, warehousemen, brokers, holders or owners except the original growers. Dealers and manufacturers coming within the provisions of the law are required to report their holdings as of January 1, April 1, July 1, and October 1. These reports, segregated and compiled by types, are published as Stocks of Leaf Tobacco. Their use in such ways as are contemplated herein is subject to the following qualifications: (1) Not all manufacturers are required to report; (2) some of the tobacco is reported on the basis of weights marked on the hogshead or case, whereas some of it is reported on the basis of actual weight; (3) some tobacco reported on is stemmed and some unstemmed; and (4) the tobacco varies as to age, some being so new that it may not yet have been redried or sweated, although most of it no doubt has been, and some of it is 2 or more years old and has accordingly suffered material loss in weight.

The significance of these qualifications need not be emphasized, but they should not be ignored. The fact that not all manufacturers are required to report is of slight importance, since the quantity of tobacco thus exempted is negligible. The significance of the other qualifications enumerated is due to the losses in weight incurred in the process of redrying or sweating and from long storage, from stemming, and to the lack of uniform practice in reporting actual weight rather than marked weight. Considered by themselves, these factors are probably not important, since they exist in varying degree throughout the series. They do introduce an inequality, however, when considered in relation to current production, since it is impossible accurately to assign to given stocks an equivalent weight in original sales. For instance, the report of January 1, 1927, showed 6,144,636 pounds of Henderson tobacco. Of this amount, 5,834,221 pounds were reported at weights marked on the containers, regardless of subsequent losses in weight. Also, of the total, 5,421,281 pounds were unstemmed and 723,355 pounds stemmed. In order to assign to the total of 6,144,636 pounds reported a weight equivalent to the original sales weight, or rather the freshly cured weight, allowance necessarily must be made for the losses incurred in stemming, redrying, and long storage.

Extent of loss from these causes varies for different types. Some types of leaf lose more in stemming than others. Losses in sweating or redrying are variously estimated at 10 to 15 per cent, and further losses occur when tobacco is held in storage for one or more years. The weakness that exists in the supply and disappearance tables arises from the fact that, to arrive at the total supply, undried or green-weight tobacco (current crop) is added to stocks which have lost varying quantities as indicated above. The actual error involved is less than might appear, since the addition of dry-weight tobacco is approximately canceled by the later subtraction of dry-weight to-

bacco. The error, then, is in the difference between the respective quantities of stocks added and subtracted, thus:

	Million pounds
Current crop, green weight.....	500
Stocks October 1, dry weight.....	500
Total supply.....	1, 000
Less stocks one year later, dry.....	450
Disappearance.....	550

In this example a slight error exists in the assumption that the 550,000,000 pounds represents actual disappearance. If exact allowances could be made for losses in the stocks figures, the computation might be about like this:

	Million pounds
Current crop.....	500
Stocks, unstemmed, green, or undried weight equivalent, assuming a loss of 15 per cent, all told.....	588
Total.....	1, 088
Less stocks 1 year later, green weight.....	530
Disappearance.....	558

That is, if the assumption of 15 per cent loss in weight is correct, an error of 8,000,000 pounds, or about 1.5 per cent, is involved in the first computation.

A plus correction, that is, a minus error, is involved in the disappearance when the second stocks figure is smaller than the first, and conversely a minus correction is involved when the second stocks figure is larger than the first. Studies indicate that errors in disappearance figures from this source are seldom large, and for most purposes may be disregarded.

In view of the foregoing, students engaged in the analysis of statistics of production, stocks, disappearance, and exports of tobacco should bear in mind the following points:

- (1) Production statistics are on a green weight or undried basis.
- (2) Stocks are reported on a redried or sweated basis, with some additional loss due to stemming.
- (3) Supply figures used herein comprise both green and redried weights.
- (4) Disappearance is computed on a green-weight basis, subject to errors already discussed.
- (5) Exports are on a redried and partly stemmed basis.

Evidently, therefore, certain discrepancies will appear if too literal use is made of these statistics. For example, it may be assumed that an increase of 50,000,000 pounds in stocks is offset by a decrease of 50,000,000 pounds in production, but for reasons given to offset such an increase in stocks would require a decrease of 55,000,000 or 60,000,000 pounds in production. Again, it may be computed that the difference between total disappearance and exports of a given type represents domestic consumption, thus:

	Pounds
Disappearance.....	50, 000, 000
Exports.....	20, 000, 000
Difference, assumed to be domestic consumption.....	30, 000, 000

In this case the assumed domestic consumption is charged with the loss in weight sustained by the exports. If the tobacco exported lost, say, 15 per cent in weight and allowance is made accordingly, the computation would be:

	Pounds
Disappearance.....	50, 000, 000
Exports, green-weight basis.....	23, 500, 000
Difference, domestic consumption.....	26, 500, 000

TYPES OF AMERICAN GROWN TOBACCO

Based upon differences in the method of curing the leaf when harvested and upon its utilization, types of tobacco are classified as follows:

MANUFACTURING TYPES		Types
Class 1. Flue-cured group.....		4
Class 2. Fire-cured group.....		4
Class 3. Air-cured group.....		5
CIGAR TYPES		
Class 4. Filler.....		6
Class 5. Binder.....		5
Class 6. Wrapper.....		2

In addition, two small types are classified as miscellaneous—Perique, grown in Louisiana, and eastern Ohio export.

The groups and types are here treated in the order shown.

FLUE-CURED TOBACCO

Flue-cured tobacco is produced in Virginia, North Carolina, South Carolina, Georgia, and Florida. The territory is divided into two general districts commonly referred to as old belt and new belt, corresponding roughly to the physiographic provinces known as the piedmont and the Atlantic coastal plain. Old-belt tobacco, type 11, is produced on the loam and sandy loam soils of the piedmont, derived from the underlying granite, gneiss, slate, etc., and underlain usually with heavy clay subsoils. Types 12, 13, and 14, comprising the new-belt group, are grown on the more sandy and gravelly soils of marine origin in the coastal plain. The tobacco trade recognizes a third division known as the middle belt, consisting of a rather narrow strip of country in North Carolina along the fall line which divides the piedmont and coastal plain provinces. In this strip, where overlapping has brought about commingling of the classes of soils which distinguish these two provinces, the tobacco takes on some of the characteristics of both the old belt and the new belt; there is consequently good reason for the trade designation of middle belt.

Type 12, eastern Carolina tobacco, is produced in a portion of North Carolina lying east of the fall line. Type 13, South Carolina tobacco, is produced in the State of that name and in a small adjoining district of North Carolina. Type 14 is produced mostly in the southern part of Georgia, a few million pounds being produced in northern Florida and a small quantity in Alabama.

The new-belt group, types 12 to 14, differs markedly from the old-belt tobacco, type 11, the latter being generally heavier in body and

darker in color. Differences between types within the new-belt group may be traced primarily to variations in soil.

Nearly all tobacco in the flue-cured districts is primed, as opposed to stalk-cut, although in portions of the old belt stalk cutting is still practiced. In priming, the leaves are removed as they reach the desired stage of maturity. (Fig. 1.) A narrow sled bearing a bin of burlap, supported by a light wooden framework, is drawn between the rows of tobacco and the primed leaves are laid carefully therein. The leaves are then taken to the curing barn where they are strung on sticks about $4\frac{1}{2}$ feet long. A string is attached to one end of the stick, and by giving a turn of the string around pairs of leaves they are held in place on the stick and are opened sufficiently to allow the circulation of air. When the stick is full the string is tied. Sticks of tobacco are hung on poles arranged in tiers in the barn.



FIGURE 1.—A tobacco field from which several primings have been removed

The curing process consists of applying carefully regulated heat, moderately at first so as to produce yellowing, then increased to remove moisture from the leaves, and continued until the midribs are dry. The fire boxes are made of stone covered with sheet iron and are several feet long. One end of the fire box is on the outside of the building, and in it a fire of poles is maintained. The smoke is conveyed through an iron flue extending from the other end of the fire box to the far side of the barn and back (fig. 2), with the exit on the same side of the building as the fire box and 2 or 3 feet higher. Usually a barn has two fire boxes. Figures 2 and 3 illustrate types of curing barns in the flue-cured district. Most barns are of frame construction, although a few modern ones are built of hollow tile or cement blocks. Many of the older barns are made of logs chinked with mud.

The curing period usually lasts from three to five days, during which a constant vigil is maintained over temperature and moisture

conditions within the building by means of a thermometer suspended where it can be scanned through a small window.

The tobacco produced in what is now the flue-cured district first came into prominence apparently as an export type, although it had

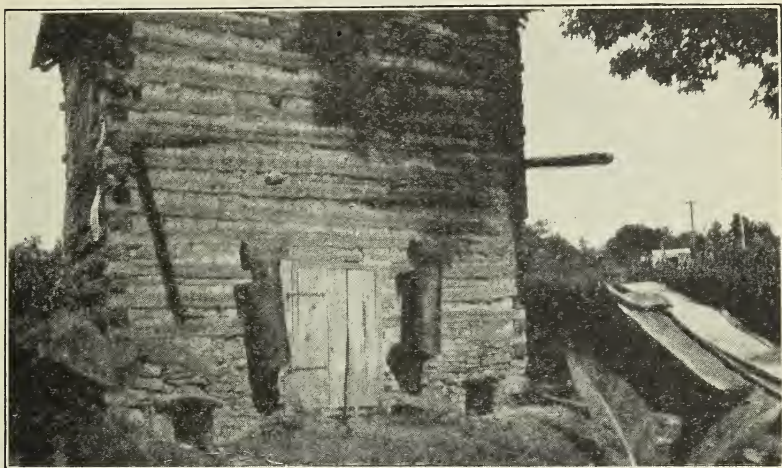


FIGURE 2.—One of the older types of curing barns in the flue-cured district of North Carolina. Logs were used in the construction and the cracks were chinked with mud.

long been popular as a chewing tobacco. The early method of curing was with open wood or charcoal fires. Its export demand seems to have grown out of the light-colored piebald or mottled markings of the leaf which found favor in France soon after the war of 1812 (11).

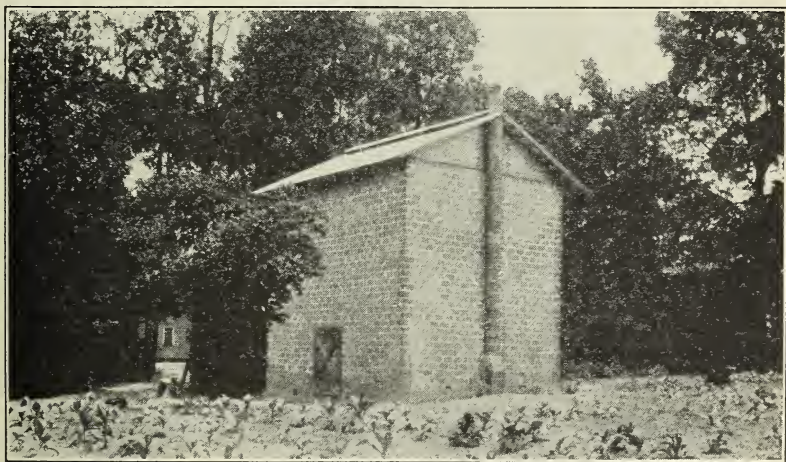


FIGURE 3.—A modern curing barn in the flue-cured tobacco district of North Carolina. This type of construction, though expensive, reduces the fire hazard. The loss by fire of frame curing barns filled with tobacco is not uncommon.

With the expansion of the chewing-tobacco trade in the United States, the lighter colors came into greater demand, and this demand was intensified by the development of the cigarette industry. The last step in the evolution toward bright colors and the elimination of

the smoky flavor was the transition from open charcoal fires to flues. Flue-cured tobacco, therefore, has passed through several stages in the course of its development.

The present demand for flue-cured tobacco arises primarily from the cigarette habit and from the export trade. The chewing habit is rapidly declining, and its influence on the demand for flue-cured tobacco is decreasing. (Table 25.) Flue-cured tobacco is to-day America's most important export type. The export demand, like the domestic demand, hinges largely on the cigarette business and the manufacture of smoking tobacco.

Characteristics sought by cigarette manufacturers are found in the thin-leaf grades, usually known as cigarette cutters, and in the better grades of lugs, sometimes called cutting lugs, the C and X groups, respectively, under the Federal standard grading system.⁴ The colors that command the highest prices are bright straw or lemon yellow. From these, the colors of flue-cured tobacco range down the scale to mahogany brown. In addition, the demand is for mild aromatic qualities. The success with which flue-cured tobacco has met these requirements may be judged from the expansion in acreage during the period when cigarette production was making its most rapid growth. In 1909 the acreage of flue cured was 341,910 acres, or about 26.5 per cent of the total United States tobacco acreage. In 1930 flue-cured tobacco occupied over 1,000,000 acres—approximately 55 per cent of the total tobacco acreage.

Tables 1, 2, and 3 present statistics of flue-cured tobacco.

TABLE 1.—*Flue-cured tobacco: Acreage, production, and price, 1909–1931*

OLD BELT, TYPE 11

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
	<i>Acres</i>	<i>Pounds</i>	<i>1,000 pounds</i>	<i>Cents</i>	<i>1,000 dollars</i>	<i>Dollars</i>
1909.....	215,600	603	129,969	9.9	12,867	59.68
1910.....	205,000	700	143,500	10.4	14,924	72.80
1911.....	171,000	740	126,540	10.8	13,666	79.92
1912.....	204,000	540	110,160	15.2	16,744	82.08
1913.....	240,000	690	165,600	18.5	30,636	127.65
1914.....	240,000	600	144,000	11.0	15,840	66.00
1915.....	255,000	640	163,200	10.5	17,136	67.20
1916.....	240,000	570	136,800	18.9	25,855	107.73
1917.....	235,000	600	141,000	32.0	45,120	192.00
1918.....	320,000	710	227,200	35.4	75,885	237.14
1919.....	386,200	467	180,273	53.9	97,135	251.51
1920.....	464,400	640	297,328	22.1	65,675	141.42
1921.....	312,900	538	168,244	22.4	37,755	120.66
1922.....	356,000	649	231,058	28.5	65,744	184.67
1923.....	399,000	674	268,787	20.0	53,747	134.70
1924.....	361,600	568	205,264	22.2	45,588	126.07
1925.....	362,200	588	212,984	17.3	36,907	101.90
1926.....	341,400	664	226,621	24.1	54,533	159.73
1927.....	399,900	711	284,216	21.2	60,242	150.64
1928.....	412,400	596	245,608	17.9	43,956	106.59
1929.....	412,800	537	262,928	21.2	47,037	113.95
1930.....	421,000	699	294,094	11.0	32,239	76.58
1931 ^a	366,500	629	230,701	8.5	19,663	53.65

^a Estimated December, 1931.

⁴ See p. 85

TABLE 1.—*Flue-cured tobacco: Acreage, production, and price, 1909–1931—Con.*

NEW BELT, EASTERN CAROLINA DISTRICT, TYPE 12

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
	<i>Acres</i>	<i>Pounds</i>	<i>1,000 pounds</i>	<i>Cents</i>	<i>1,000 dollars</i>	<i>Dollars</i>
1919	256,000	718	183,808	49.6	91,169	356.13
1920	298,400	737	219,998	19.6	43,120	144.50
1921	203,000	630	127,904	26.4	33,767	166.34
1922	210,000	602	126,345	27.3	34,492	164.25
1923	263,800	778	205,359	21.5	44,152	167.37
1924	228,000	610	139,080	23.1	32,127	140.91
1925	279,700	770	215,369	25.4	54,704	195.58
1926	298,000	712	212,176	26.6	56,439	189.39
1927	338,000	775	261,950	20.2	52,914	156.55
1928	390,000	730	284,700	20.0	56,940	146.00
1929	402,000	660	265,319	18.9	50,180	124.83
1930	414,000	763	315,882	13.4	42,378	102.36
1931 ¹	370,000	688	254,697	9.4	23,942	64.71

NEW BELT, SOUTH CAROLINA DISTRICT,² TYPE 13

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
1919	145,500	695	101,182	21.0	21,216	145.81
1920	126,500	687	86,955	24.1	20,924	165.41
1921	84,000	669	56,190	11.3	6,332	75.38
1922	85,000	635	54,010	21.5	11,616	136.66
1923	127,500	764	97,359	21.0	20,409	160.07
1924	124,900	492	61,480	16.2	9,932	79.52
1925	126,500	756	95,612	16.7	15,959	126.16
1926	109,500	728	79,717	23.7	18,922	172.80
1927	139,000	796	110,623	20.3	22,409	161.22
1928	196,500	618	121,462	13.2	15,982	81.33
1929	169,500	758	128,438	16.0	20,611	121.60
1930	172,800	841	145,292	12.4	17,995	104.14
1931 ¹	149,200	732	109,238	10.0	10,950	73.39

NEW BELT, GEORGIA-FLORIDA DISTRICT, TYPE 14

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
1919	23,800	488	11,621	19.5	2,269	95.34
1920	19,600	596	11,687	23.5	2,750	140.31
1921	11,600	557	6,456	12.5	809	69.74
1922	8,500	474	4,026	23.8	960	112.94
1923	14,500	637	9,231	25.6	2,362	162.90
1924	40,000	788	31,511	21.7	6,827	170.68
1925	66,700	766	51,119	14.4	7,381	110.66
1926	51,800	802	41,558	23.5	9,775	188.71
1927	81,400	762	62,000	18.9	11,737	144.19
1928	121,000	722	87,329	12.8	11,189	92.47
1929	103,400	900	93,067	18.4	17,092	165.30
1930	120,200	907	109,008	10.0	10,867	90.41
1931 ¹	89,000	709	63,079	6.4	4,034	45.55

NEW BELT, TYPES 12, 13, AND 14 COMBINED

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
1909	126,300	733	92,536	8.3	7,680	60.81
1910	115,000	550	63,250	10.0	6,325	55.00
1911	68,000	730	49,640	12.6	6,255	91.99
1912	106,000	730	77,380	16.1	12,458	117.53
1913	165,000	710	117,150	17.9	20,970	127.09
1914	185,000	710	131,350	11.6	15,237	82.36
1915	240,000	620	148,800	10.6	15,773	65.72
1916	230,000	550	126,500	19.2	24,288	105.60
1917	525,000	670	217,750	29.6	64,454	198.32
1918	366,000	710	259,860	35.0	90,951	248.50
1919	425,300	697	296,611	38.7	114,654	269.58
1920	444,500	717	318,640	21.0	66,794	150.27
1921	298,600	638	190,550	21.5	40,906	136.99
1922	303,500	608	184,381	25.5	47,068	155.08
1923	405,800	769	311,949	21.5	66,923	164.92
1924	392,900	591	232,071	21.1	48,886	124.42
1925	472,900	766	362,100	21.6	78,044	165.03
1926	459,300	726	333,451	25.5	85,136	185.36
1927	558,400	778	434,573	20.0	87,060	155.91
1928	707,500	698	493,491	17.0	84,111	118.88
1929	674,900	721	486,824	18.1	87,883	130.22
1930	707,000	866	570,182	12.5	71,240	100.76
1931 ¹	608,200	702	427,014	9.1	38,946	64.03

¹ Estimated December, 1931.² The South Carolina district includes a small adjacent portion of North Carolina.

TABLE 1.—*Flue-cured tobacco: Acreage, production, and price, 1909–1931—Con.*

ALL FLUE-CURED, TYPES 11, 12, 13, AND 14

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
	<i>Acres</i>	<i>Pounds</i>	<i>1,000 pounds</i>	<i>Cents</i>	<i>1,000 dollars</i>	<i>Dollars</i>
1909.....	341,900	651	222,505	9.2	20,547	60.10
1910.....	320,000	646	206,750	10.3	21,249	66.40
1911.....	239,000	737	176,180	11.3	19,921	83.35
1912.....	310,000	605	187,540	15.6	29,202	94.20
1913.....	405,000	698	282,750	18.3	51,606	127.42
1914.....	425,000	648	275,350	11.3	31,077	73.12
1915.....	495,000	630	312,000	10.5	32,909	66.48
1916.....	470,000	560	263,300	19.0	50,143	106.69
1917.....	560,000	641	358,750	30.5	109,754	195.67
1918.....	686,000	710	487,060	34.3	166,836	243.20
1919.....	811,500	588	476,884	44.4	211,789	260.98
1920.....	908,900	678	615,968	21.5	132,469	145.75
1921.....	611,500	587	358,794	21.9	78,661	128.64
1922.....	659,500	630	415,439	27.2	112,812	171.06
1923.....	804,800	722	580,736	20.8	120,670	149.94
1924.....	754,500	580	437,335	21.6	94,474	125.21
1925.....	835,100	689	575,084	20.0	114,951	137.65
1926.....	800,700	699	560,789	24.9	139,669	174.43
1927.....	958,300	750	718,789	20.5	147,302	153.71
1928.....	1,119,900	660	739,099	17.3	128,069	114.36
1929.....	1,087,700	689	749,752	18.0	134,920	124.04
1930.....	1,128,000	766	864,276	12.0	103,479	91.74
1931 ¹	974,700	675	657,715	8.9	58,609	60.13

¹ Estimated December, 1931.

Compiled from records of the Division of Crop and Livestock Estimates.

TABLE 2.—*Flue-cured tobacco, types 11 to 14: Production, stocks, and disappearance, 1913–1931*

(In million pounds; i. e., 000,000 omitted)

Year	Production					Stocks July 1	Total supply	Disap- pearance
	Type 11	Type 12	Type 13	Type 14	Total			
1913.....	165.6	117.2			282.8	211.0	493.8	262.3
1914.....	144.0	131.4			275.4	231.5	506.9	238.3
1915.....	163.2	148.8			312.0	268.6	580.6	301.2
1916.....	136.8	126.5			263.3	279.4	542.7	289.3
1917.....	141.0	217.8			358.8	253.4	612.2	319.8
1918.....	227.2	257.6			484.8	292.4	779.5	452.2
1919.....	180.3	183.8	101.2	11.6	476.9	327.3	804.2	500.0
1920.....	297.3	220.0	87.0	11.7	616.0	304.2	920.2	437.1
1921.....	168.2	127.9	56.2	6.5	358.8	483.1	841.9	401.2
1922.....	231.1	126.3	54.0	4.0	415.4	440.7	856.1	417.4
1923.....	268.8	205.3	97.4	9.2	580.7	438.7	1,019.4	542.8
1924.....	205.2	139.1	61.5	31.5	437.3	476.6	913.9	451.6
1925.....	213.0	215.4	95.6	51.1	575.1	462.3	1,037.4	582.0
1926.....	226.6	212.2	79.7	41.6	560.1	455.4	1,015.5	549.0
1927.....	284.2	262.0	110.6	62.0	718.8	466.5	1,185.3	620.3
1928.....	245.6	284.7	121.5	87.3	739.1	565.0	1,304.1	714.1
1929.....	262.9	265.3	128.4	93.1	749.7	590.0	1,339.7	740.4
1930.....	294.1	315.9	145.3	109.0	864.3	599.3	1,463.6	786.8
1931.....	¹ 230.7	¹ 254.7	¹ 109.2	¹ 63.1	¹ 657.7	676.8	1,334.5	589.3

¹ Estimated December, 1931.

Production data compiled from records of the Division of Crop and Livestock Estimates. Stocks compiled from reports of the Bureau of the Census prior to Apr. 1, 1929; since Apr. 1, 1929 compiled from the tobacco stocks report of the Tobacco Section.

TABLE 3.—Exports of flue-cured tobacco from the United States to principal importing countries, 1923-1931

Importing countries	Calendar year—								
	1923	1924	1925	1926	1927	1928	1929	1930	1931
	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>
United Kingdom.....	193,268	121,040	131,034	125,964	166,655	162,329	199,632	180,380	145,309
China.....	25,995	58,509	78,824	82,669	45,386	159,664	99,455	108,913	148,634
Australia.....	14,350	17,093	19,638	20,843	17,247	20,050	18,488	26,248	14,924
Canada.....	6,671	11,167	9,445	13,517	13,037	13,440	13,263	12,964	11,366
Germany.....	16,752	16,743	5,988	12,385	12,809	16,327	6,558	10,946	7,864
Other countries.....	22,946	40,963	33,350	31,957	47,291	63,088	73,440	58,244	60,155
Total.....	179,982	265,515	278,279	287,335	302,425	434,898	410,836	397,695	388,252
	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>
United Kingdom.....	51.8	45.6	47.1	43.8	55.1	37.3	48.6	45.3	37.4
China.....	14.4	22.0	28.3	28.8	15.0	36.7	24.2	27.4	38.3
Australia.....	8.0	6.5	7.1	7.3	5.7	4.6	4.5	6.6	3.9
Canada.....	3.7	4.2	3.4	4.7	4.3	3.1	3.2	3.3	2.9
Germany.....	9.3	6.3	2.1	4.3	4.2	3.8	1.6	2.8	2.0
Other countries.....	12.8	15.4	12.0	11.1	15.7	14.5	17.9	14.6	15.5

¹ Includes Ireland; beginning 1925, Irish Free State is not included.

Compiled from Foreign Commerce and Navigation of the United States, 1923-1930, and official records of the Bureau of Foreign and Domestic Commerce, 1931.

FIRE-CURED TOBACCO

Tobacco that is cured in the heat and smoke of open fires is called fire cured or dark fired. The practice probably grew out of the necessity of applying artificial heat to protect the green tobacco from the effects of dampness in rainy or muggy weather. It might be that tobacco hanging in the wigwams of the Indians was to some extent fire cured, and that the white man's taste for fire-cured tobacco arose therefrom.

Fire curing of tobacco in Virginia seems to have developed in a part of the district in which for a time sun curing was the more common mode. This is indicated by an extract from a letter from Charles Yancey (18, p. 349-350), Buckingham County, Va., to the Commissioner of Patents in 1850.

Sun curing had its day, and commanded very high prices by the manufacturers being exempt from smoke, which was deemed offensive to the stomach of those with dyspepsia, now the prevailing disease of the country, from overeating, late sleeping, and spending the balance of the day in idleness. That mode is now pursued by but few: Curing by steam is entirely abandoned.

This, incidentally, is the only reference to curing by steam that the author has seen.

The procedure in fire curing begins with the harvesting. The stalk of tobacco is split to within a few inches of the butt and is cut off a few inches from the ground. The split stalks, after lying in the fields long enough for the tobacco to wilt (fig. 4) are hung on laths that are suspended on poles, tier on tier, in the curing barn. When the green plants have thoroughly yellowed, usually in about one week, the curing fires are started. Slow wood fires are maintained on the dirt floor of the barn, the greatest care being exercised so to regulate the degree of heat as to effect a gradual, even curing without driving off the natural oils in the tobacco, or otherwise impairing the quality. This requires great vigilance throughout a curing period of

one to three weeks. The results of a whole growing season can be irreparably damaged in a few hours by improper firing.

Four types of fire-cured tobacco are recognized: Virginia dark, U. S. type 21, produced mainly in the counties along the upper James and lower Appomattox Rivers in Virginia from Lynchburg eastward close to Petersburg; Clarksville, Hopkinsville, and Springfield, or, as it is more often referred to, Clarksville and Hopkinsville, U. S. type 22, produced east of the Tennessee River around Hopkinsville, Ky., and Clarksville and Springfield, Tenn.; Paducah and Mayfield, U. S. type 23, produced west of the Tennessee River from Paducah southward to Henry and Weakley Counties, Tenn.; and Henderson fire-cured, or as it was formerly known, Henderson stemming, U. S. type 24, produced in several counties lying near the Ohio River to the



FIGURE 4.—Wilting and yellowing tobacco on the scaffold, Montgomery County, Tenn., showing a method common in nearly all districts. Plants that were unripe at the time of cutting were left standing in the field for later harvesting

south and west of Henderson, Ky. That portion of Kentucky and Tennessee producing dark-fired tobacco has been known for generations as "the black patch." That part of the black patch lying west of the Tennessee River, the western or Paducah section, was a part of the Jackson purchase, and is commonly referred to as the "purchase."

Varieties of tobacco grown in the fire-cured districts differ from those planted elsewhere. The characteristic features are the very broad, dark-green leaves which are gummy to the touch, and heavily drooping. (Fig. 5.) Figure 6 illustrates a field of fire-cured tobacco, type 21, at Appomattox, Va. Figure 7 illustrates the wide spacing practiced in growing fire-cured types. This contributes to large leaves of heavy body. (Compare with figs. 8 and 12.)

The principal domestic use of fire-cured tobacco to-day is in the manufacture of snuff, the consumption of which is gradually increas-

ing. The entire leaf is used. Several million pounds of fire-cured tobacco are used annually in the manufacture of cigars, principally



FIGURE 5.—A characteristic plant of Clarksville and Hopkinsville tobacco, U. S. type 22, Montgomery County, Tenn.



FIGURE 6.—Field of fire-cured tobacco at Appomattox, Va.

for consumption by Italians, and in the manufacture of black fat (see p. 29). Fine grades are used extensively for plug wrappers, and fire-cured tobacco is used to some extent in plug fillers and in smoking tobacco.

In foreign countries the uses of fire-cured tobacco are similar to these, but more attention is given to smoking mixtures. In some countries tobacco is manufactured into "roll," a form unknown in North America. Roll consists of a rope of tobacco which is cut into



FIGURE 7.—A field of young fire-cured tobacco, type 23, near Murray, Ky. Note the wide spacing of the plants, about 4,000 to the acre. This is conducive to heavy leaf. In cigarette types, Burley for instance, where thinness of leaf is an important factor, from 6,000 to 7,000 or more plants to the acre is the rule. (See figs. 8 and 12)

convenient lengths for sale. Tables 4, 5, and 6 give statistics of fire-cured tobacco.

TABLE 4.—*Fire-cured tobacco: Acreage, production, and price, 1909–1931*

VIRGINIA FIRE CURED, TYPE 21

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
	<i>Acres</i>	<i>Pounds</i>	<i>1,000 pounds</i>	<i>Cents</i>	<i>1,000 dollars</i>	<i>Dollars</i>
1909.....	79,750	787	62,763	7.8	4,896	61.39
1910.....	80,000	800	64,000	8.0	5,120	64.00
1911.....	60,000	850	51,000	8.4	4,284	71.40
1912.....	75,000	660	49,500	7.8	3,861	51.48
1913.....	71,200	820	58,384	7.0	4,087	57.40
1914.....	50,000	740	37,000	7.3	2,701	54.02
1915.....	65,000	840	54,600	8.0	4,368	67.20
1916.....	65,600	820	53,792	10.4	5,594	85.27
1917.....	62,000	830	51,460	17.0	8,748	141.10
1918.....	70,000	860	60,200	17.7	10,655	152.21
1919.....	64,000	466	29,824	24.0	7,158	111.84
1920.....	58,600	780	45,708	9.1	4,159	70.97
1921.....	40,400	611	24,684	18.8	4,641	114.88
1922.....	60,600	811	49,147	19.8	9,731	160.58
1923.....	55,000	795	43,725	18.1	7,914	143.89
1924.....	65,400	660	43,164	19.4	8,374	128.04
1925.....	56,000	751	42,056	16.2	6,813	121.66
1926.....	55,200	793	43,774	7.8	3,414	61.85
1927.....	33,200	800	26,560	9.9	2,629	79.19
1928.....	31,200	703	21,934	10.6	2,325	74.52
1929.....	30,000	760	22,812	16.9	3,855	128.50
1930.....	38,000	614	23,325	8.3	1,936	50.95
1931 ¹	41,000	750	30,750	5.1	1,558	38.00

¹ Estimated December, 1931.

TABLE 4.—*Fire-cured tobacco: Acreage, production, and price, 1909-1931—Con.*

CLARKSVILLE AND HOPKINSVILLE, TYPE 22

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
	<i>Acres</i>	<i>Pounds</i>	<i>1,000 pounds</i>	<i>Cents</i>	<i>1,000 dollars</i>	<i>Dollars</i>
1909.....	104,000	764	79,429	8.0	6,354	61.10
1910.....	120,000	760	91,200	8.8	8,026	66.88
1911.....	90,000	810	72,900	9.0	6,561	72.90
1912.....	120,000	660	79,200	7.8	6,178	51.48
1913.....	115,000	700	80,500	9.0	7,245	63.00
1914.....	98,900	800	79,120	7.5	5,934	60.00
1915.....	118,700	750	89,025	6.5	5,787	48.75
1916.....	125,000	790	98,750	10.8	10,665	85.32
1917.....	120,000	800	96,000	14.8	14,208	118.40
1918.....	100,000	770	77,000	22.6	17,402	174.02
1919.....	168,500	776	130,713	19.1	24,994	148.33
1920.....	145,000	766	111,078	11.7	13,010	89.72
1921.....	109,800	795	87,297	18.6	16,269	148.17
1922.....	145,700	763	111,141	16.4	18,254	125.28
1923.....	153,100	785	120,149	12.2	14,624	95.52
1924.....	115,500	798	92,160	16.1	14,849	128.56
1925.....	127,000	767	97,347	9.9	9,672	76.16
1926.....	119,400	810	96,762	8.6	8,331	69.77
1927.....	85,800	749	64,234	18.4	11,851	138.12
1928.....	105,400	753	79,336	15.8	12,508	118.67
1929.....	127,800	842	107,606	14.2	15,299	119.71
1930.....	128,500	753	96,805	10.4	10,101	78.61
1931 ¹	126,900	808	102,498	6.7	6,896	54.34

PADUCAH AND MAYFIELD, TYPE 23

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
1909.....	76,650	735	56,312	7.3	4,111	53.63
1910.....	99,200	750	74,400	7.8	5,803	58.50
1911.....	75,000	800	60,000	8.0	4,800	64.00
1912.....	100,000	620	62,000	6.2	3,844	38.44
1913.....	75,000	780	58,500	7.7	4,504	60.05
1914.....	70,000	780	54,600	6.1	3,331	47.59
1915.....	93,100	730	67,963	6.0	4,078	43.80
1916.....	100,000	780	78,000	9.8	7,644	76.44
1917.....	118,000	800	94,400	14.0	13,216	112.00
1918.....	95,000	800	76,000	21.0	15,960	168.00
1919.....	139,000	772	107,290	15.1	16,191	116.48
1920.....	91,500	750	71,345	9.1	6,509	71.14
1921.....	60,500	828	50,122	14.2	7,103	117.40
1922.....	93,500	810	75,740	13.2	10,024	107.21
1923.....	102,500	810	83,025	10.8	9,005	87.85
1924.....	81,000	795	64,368	10.8	6,936	85.63
1925.....	74,000	776	57,400	6.9	3,943	53.28
1926.....	48,000	799	38,360	6.1	2,330	48.54
1927.....	24,700	748	18,465	12.2	2,253	91.21
1928.....	39,600	739	29,256	12.6	3,682	92.98
1929.....	53,600	884	47,375	10.0	4,738	88.40
1930.....	55,500	685	38,033	5.7	2,163	38.97
1931 ¹	63,000	842	53,075	4.9	2,594	41.17

HENDERSON, TYPE 24

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
1919 ²	25,000	780	19,500	16.0	3,120	124.80
1920.....	15,300	820	12,546	10.0	1,255	82.03
1921.....	9,700	855	8,294	15.0	1,244	128.25
1922.....	15,800	893	14,109	15.0	2,116	133.92
1923.....	16,500	880	14,520	12.0	1,742	105.58
1924.....	17,200	825	14,190	12.0	1,703	99.01
1925.....	18,000	775	13,950	7.3	1,018	56.56
1926.....	11,000	896	9,856	7.4	729	66.27
1927.....	6,500	646	4,199	9.7	407	62.62
1928.....	8,000	750	6,000	13.9	834	104.25
1929.....	11,200	848	9,498	9.5	902	80.54
1930.....	12,000	745	8,940	6.9	617	51.42
1931 ¹	12,800	855	10,944	5.0	547	42.73

¹ Estimated December, 1931.² Prior to 1919, data for Green River and Henderson were combined.

Compiled from records of the Division of Crop and Livestock Estimates.

TABLE 5.—*Fire-cured tobacco: Production, stocks, and disappearance, 1912-1931*

[In million pounds; i. e. 000,000 omitted]

VIRGINIA FIRE CURED, TYPE 21

Year	Production	Stocks on hand Oct. 1	Total supply	Disappearance, year beginning Oct. 1	Year	Production	Stocks on hand Oct. 1	Total supply	Disappearance, year beginning Oct. 1
1912-----	49.5	34.6	84.1	50.4	1922-----	49.1	24.7	73.8	46.8
1913-----	58.4	33.7	92.1	57.9	1923-----	43.7	27.0	70.7	36.5
1914-----	37.0	34.2	71.2	42.5	1924-----	43.2	34.2	77.4	34.3
1915-----	54.6	28.7	83.3	44.5	1925-----	42.1	43.1	85.2	35.3
1916-----	53.8	38.8	92.6	47.4	1926-----	43.8	49.9	93.7	37.6
1917-----	51.5	45.2	96.7	54.9	1927-----	26.6	56.1	82.7	33.7
1918-----	60.2	41.8	102.0	67.8	1928-----	21.9	49.0	70.9	39.6
1919-----	29.8	34.2	64.0	33.2	1929-----	22.8	31.3	54.1	26.2
1920-----	45.7	30.8	76.5	41.9	1930-----	23.3	27.9	51.2	22.6
1921-----	24.7	34.6	59.3	34.6	1931-----	¹ 30.8	28.6	59.4	27.2

KENTUCKY AND TENNESSEE FIRE CURED, TYPES 22 AND 23

1912-----	141.2	91.1	232.3	120.7	1922-----	186.9	130.2	317.1	176.2
1913-----	139.0	111.6	250.6	108.8	1923-----	203.2	140.9	344.1	200.7
1914-----	133.7	141.8	275.5	125.7	1924-----	156.5	143.4	299.9	148.7
1915-----	157.0	149.8	306.8	184.4	1925-----	154.7	151.2	305.9	136.7
1916-----	176.8	122.4	299.2	171.2	1926-----	135.1	169.2	304.3	142.4
1917-----	190.4	128.0	318.4	121.3	1927-----	82.7	161.9	244.6	130.5
1918-----	153.0	197.1	350.1	208.1	1928-----	108.6	114.1	222.7	118.6
1919-----	238.0	142.0	380.0	200.7	1929-----	155.0	104.1	259.1	152.0
1920-----	182.4	179.3	361.7	206.0	1930-----	134.8	107.1	241.9	112.6
1921-----	137.4	155.7	293.1	162.9	1931-----	¹ 155.6	129.3	284.9	126.4

HENDERSON, TYPE 24

1919-----	19.5	7.5	27.0	14.9	1926-----	9.9	7.4	17.3	10.1
1920-----	12.5	12.1	24.6	16.7	1927-----	4.2	7.2	11.4	6.8
1921-----	8.3	7.9	16.2	12.3	1928-----	6.0	4.6	10.6	9.9
1922-----	14.1	3.9	18.0	15.0	1929-----	9.5	.7	10.2	9.5
1923-----	14.6	3.0	17.6	13.8	1930-----	8.9	.7	9.6	6.5
1924-----	14.2	3.8	18.0	12.2	1931-----	¹ 10.9	3.1	14.0	9.9
1925-----	14.0	5.8	19.8	12.4					

¹ Estimated December, 1931.

Production data compiled from records of the Division of Crop and Livestock Estimates. Stocks compiled from reports of the Bureau of the Census prior to Apr. 1, 1929; since Apr. 1, 1929, compiled from the tobacco stocks reports of the Tobacco Section.

TABLE 6.—*Exports of fire-cured tobacco from the United States to principal importing countries, 1923-1930*

VIRGINIA FIRE CURED, TYPE 21

Importing country	Calendar year—								
	1923	1924	1925	1926	1927	1928	1929	1930	1931
	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>
United Kingdom-----	23,777	¹ 6,483	4,889	3,626	1,357	1,234	1,923	2,324	1,413
Germany-----	3,786	3,585	3,621	3,571	5,493	2,966	2,085	2,588	1,879
Netherlands-----	2,851	2,726	2,971	2,810	2,807	1,164	839	1,025	1,255
Australia-----	3,940	3,144	2,912	2,480	2,336	780	775	2,015	689
China-----	2,662	3,947	399	70	1,774	111	179	107	-----
Norway-----	1,700	2,285	1,506	1,880	2,020	2,637	1,648	1,881	1,265
Belgium-----	1,395	655	101	528	1,295	1,693	2,055	317	668
Canada-----	1,399	1,828	363	20	283	356	152	177	93
France-----	563	313	232	514	1,631	1,240	1,699	650	150
Other countries-----	6,288	6,104	3,349	2,891	5,281	6,494	12,767	4,295	4,018
Total-----	48,361	31,070	20,343	18,390	24,277	18,695	24,122	15,379	11,430

¹ Includes Ireland; beginning 1925, Irish Free State is not included.

TABLE 6.—*Exports of fire-cured tobacco from the United States to principal importing countries, 1923-1930—Continued*

VIRGINIA FIRE CURED, TYPE 21—Continued

Importing country	Calendar year—								
	1923	1924	1925	1926	1927	1928	1929	1930	1931
	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>
United Kingdom.....	49.2	20.9	24.0	19.7	5.6	6.6	8.0	15.1	12.4
Germany.....	7.8	11.5	17.8	19.4	22.6	15.9	8.6	16.8	16.4
Netherlands.....	5.9	8.8	14.6	15.3	11.6	6.2	3.5	6.7	11.0
Australia.....	8.1	10.1	14.3	13.5	9.6	4.2	3.2	13.1	6.0
China.....	5.5	12.7	2.0	.4	7.3	.6	.8	.7	0.0
Norway.....	3.5	7.4	7.4	10.2	8.3	14.2	6.8	12.2	11.1
Belgium.....	2.9	2.1	.5	2.9	5.3	9.0	8.5	2.1	5.8
Canada.....	2.9	5.9	1.8	.1	1.2	1.9	.6	1.2	.8
France.....	1.2	1.0	1.1	2.8	6.7	6.6	7.1	4.2	1.3
Other countries.....	13.0	19.6	16.5	15.7	21.8	34.8	52.9	27.9	35.2

KENTUCKY AND TENNESSEE FIRE CURED, TYPES 22, 23, AND 24

	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>
United Kingdom.....	19,990	17,925	22,023	15,734	9,149	6,547	7,271	6,288	5,579
Spain.....	14,166	31,104	15,025	1,479	19,423	13,292	1,966	1,047	2,463
France.....	20,322	33,527	12,253	32,823	20,769	13,465	15,582	37,516	18,494
Germany.....	8,033	17,805	11,471	10,453	10,027	9,280	10,916	8,810	8,091
Italy.....	31,038	15,508	10,212	4,066	385	650	2,587	3,165	3,228
Netherlands.....	10,434	13,852	9,071	13,611	8,039	8,962	11,167	13,345	7,507
Belgium.....	20,591	12,858	6,639	14,411	13,956	6,079	5,286	6,795	8,025
Other countries.....	26,306	27,649	30,280	27,270	30,260	25,739	25,002	28,474	14,584
Total.....	150,880	170,228	116,974	119,847	112,008	84,014	79,777	105,440	67,971
	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>
United Kingdom.....	13.2	10.5	18.8	13.1	8.2	7.8	9.1	6.0	8.2
Spain.....	9.4	18.3	12.8	1.2	17.3	15.8	2.5	1.0	3.6
France.....	13.5	19.7	10.5	27.4	18.5	16.0	19.5	35.6	27.2
Germany.....	5.3	10.5	9.8	8.7	9.0	11.1	13.7	8.3	11.9
Italy.....	20.6	9.1	8.7	3.4	.3	.8	3.2	3.0	4.8
Netherlands.....	6.9	8.1	7.8	11.4	7.2	10.7	14.0	12.7	11.0
Belgium.....	13.7	7.6	5.7	12.0	12.5	7.2	6.6	6.4	11.8
Other countries.....	17.4	16.2	25.9	22.8	27.0	30.6	31.4	27.0	21.5

¹ Includes Ireland; beginning 1925, Irish Free State is not included.

Compiled from Foreign Commerce and Navigation of the United States, 1923-1930, and official records of the Bureau of Foreign and Domestic Commerce, 1931.

AIR-CURED TOBACCO

The types of tobacco commonly known as air cured are cigarette, smoking, chewing, and export types, as distinguished from cigar types, which are also air cured but are grouped under other designations.

Statistics of air-cured tobacco are presented in Tables 7 to 9.

LIGHT AIR-CURED TYPES

The air-cured group is subdivided into light and dark types. The light air-cured tobaccos are Burley, type 31, and southern Maryland, type 32. These two contain varying percentages of tobacco suitable for cigarette manufacture in addition to much that is used for other purposes. The dark air cured tobaccos (One Sucker, type 35; Green River, type 36; Virginia sun-cured, type 37) contain no cigarette grades.

In air curing, the tobacco is stalk cut, and is either split down the stalk as in fire cured or the butts of the stalks are speared with tobacco sticks by means of a sharp removable spearhead and suspended in curing barns so constructed as to permit free circulation of air. Artificial heat is rarely applied, and then only in periods when dampness is likely to cause injury from house burn or pole sweat.

BURLEY, TYPE 31

Burley tobacco represents a process of evolution not connected with changes in curing methods, but arising in part from the chance discovery of a single plant of unusual characteristics (botanically a mutation) and in part from the systematic development of new strains to meet changing manufacturing requirements. Burley as originally grown by the pioneers of Kentucky and southern Ohio was a dark air-cured type known as Red Burley. Practically without exception the strains now grown, of which there are many, come within the generic term "White Burley." The following account of the origin of White Burley originally appeared in the *Western Tobacco Journal* and is reprinted here as quoted by Mathewson (11, p. 71-72).

White Burley tobacco first made its appearance in the year 1864, near the village of Higginsport, Brown County, Ohio. [A typical field of Burley in Brown County



FIGURE 8.—Burley tobacco in White Oak Valley, Brown County, Ohio. The so-called White Burley originated from a plant discovered in this valley

is shown in Figure 8.] In the spring of that year one George Webb procured from G. W. Barkley, of Bracken County, Ky., a small portion of tobacco seed of the kind then known as Little Burley. He sowed a part of this seed and grew a bed of fine looking plants, but when ready to transplant found among them a few of a peculiar white or yellow color and, supposing them to be diseased or dwarfed plants, pulled them up and threw them away.

The next year, being scarce of seed, he sowed the remainder of this old seed and again found a portion of the same kind of plants that he had thrown away the year previous. This excited the curiosity of Mr. Webb and others, whose attention had been called to these strange-looking plants, and they were induced to transplant them, raising in all about 1,000 plants, which proved to be healthy and thrifty, and when fully ripe were almost of a cream color, making a great contrast with other tobacco.

The result of this experience created quite a sensation throughout the neighborhood and many growers came from every direction to see what they called a freak of nature. The tobacco cured a bright yellow or cream color, but was adjudged bitter to the taste. Some concluded that although the tobacco colored well and produced the pounds, on account of its bitter taste it would not be safe to plant any large portion of the next crop of this kind of tobacco, although considerable seed had been saved.

The plant beds that were sown of this seed in the year 1866 were found to contain a much larger portion of white plants than green ones, and a sufficient quantity was transplanted to produce 20,000 pounds of cured tobacco. Two hogsheds of this production were shipped to the Cincinnati market and sold at a high price. The purchaser shipped the same to the St. Louis Fair of 1867 and, after being awarded the first and second premiums for cutting leaf, sold it for \$58 per hundred.

The remainder of this kind of tobacco was purchased by the firm of which I was a member and entered at the Cincinnati Annual Tobacco Fair of the same year to compete for the best 10 hogsheds of any class, and awarded the third premium, and was afterwards sold for \$34 per hundred.

The record thus made at the several tobacco fairs of 1867 induced many of the enterprising planters of Brown County, Ohio, and Bracken County, Ky., to plant largely of this kind of tobacco, and its culture has been gradually increasing throughout the entire district used for producing cutting tobacco until the present time, when it would be difficult to find any person in this large tobacco region so ignorant of his pecuniary interest as to plant any other kind.

The character of the soil that first produced the White Burley is strong, black, coarse river-hill land, and underlaid with limestone. The growth of timber cut from this land was principally sugar, lin, buckeye, ash, walnut, hickory, oak, and beech. Although it is well known to the country dealer that much the best quality of White Burley is grown on this kind of land, experience has satisfied us that any good, strong, old or new land that will produce any other class of cutting tobacco will produce this.

In 1867 I gave this growth of tobacco the name of White Burley, owing to its similitude in size and texture to the ordinary Burley, and to its almost white color when thoroughly ripe. The cultivation is the same as for any other cutting tobacco.

Burley tobacco has undergone a further process of evolution, for whereas the demand of earlier days depended upon the great requirements for the manufacture of chewing and smoking tobacco, less and less is now used for the manufacture of chewing tobacco, while a new and rapidly expanding outlet for Burley has been provided by the cigarette industry.

Leaf requirements for chewing and pipe-smoking purposes on the one hand, and for cigarette purposes on the other, differ greatly. For the former the medium-to-dark grades of heavy leaf are suitable; for the latter only the light-bodied and light-colored cutters or lugs and flyings can be used. Premium prices are paid for cigarette grades, as shown in the following summary of season-average prices paid at Gallatin, Tenn., during the marketing season of 1930-31 for tobacco graded by the Federal-State tobacco grading service.

Group	Average price per 100 pounds
B. Leaf, or fillers and tips.....	\$15. 70
C. Lugs, or cutters.....	25. 15
X. Trashes, flyings, and spods.....	21. 19

The B group includes the various grades of "leaf" or "heavy leaf," suitable for chewing and smoking. These grades come normally from the middle and upper portions of the stalk, and are relatively dark in color and heavy in body. This tobacco is too strong for cigarette purposes. The C and X groups contain the thin, cutting grades of light color and body and milder smoking qualities used in the manufacture of cigarettes.

The higher range of prices paid for cigarette grades since manufacturers began using significant quantities of Burley for this purpose has led to efforts to increase the proportion of cigarette grades in the crop. These efforts have been directed principally along two lines—closer planting, and the development of the so-called "stand-up" strains. In the stand-up strains, of which Judy's Pride and Kelly are

examples, the leaves are thinner and narrower, and remain erect in growth (figs. 8 and 9) instead of drooping as do the heavier broad-



FIGURE 9.—Thrifty young Burley tobacco plants in the bluegrass section, Fayette County, Ky. Note the smaller, thinner leaves compared with fire-cured tobacco shown in Figures 5 and 6

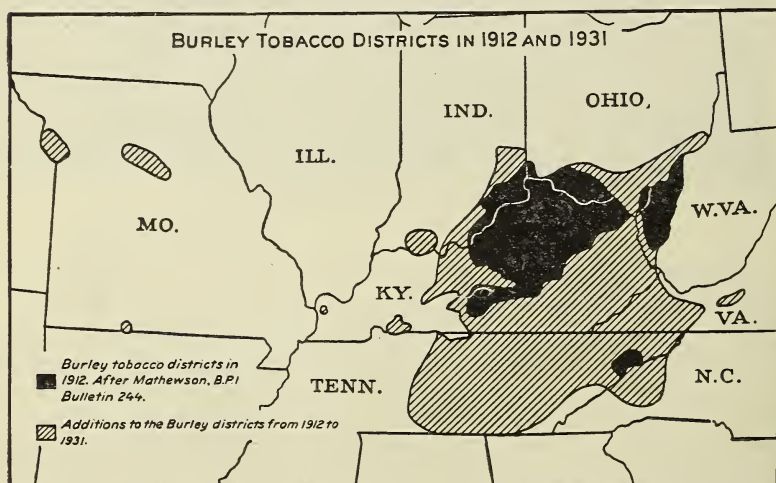


FIGURE 10.—In 1912 Burley tobacco was strictly a chewing and smoking type. With the great expansion in cigarette consumption, Burley has become an important cigarette type. The Burley districts have accordingly been greatly expanded

leaved varieties. Production of cigarette grades is facilitated by the proper selection of soils, the heavy red soils of some districts being the least suited to this purpose.

In common with practically all types, Burley enjoyed a great increase in price early in the World War. In common with all cigarette types it remained on a relatively high-price level, except in years when overproduction forced prices down. Because of the price, the boundaries of the Burley district have been extended from year to year, partly into counties where tobacco previously was almost unknown, and partly into districts where other types had become less profitable. The extent of this expansion since 1912 is indicated in Figure 10 and Table 7.

TABLE 7.—*Light air-cured tobacco: Acreage, production, and price, 1909–1931*

BURLEY, TYPE 31

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
	<i>Acres</i>	<i>Pounds</i>	<i>1,000 pounds</i>	<i>Cents</i>	<i>1,000 dollars</i>	<i>Dollars</i>
1909.....	267,300	956	255,439	13.4	34,229	128.05
1910.....	330,000	830	273,900	9.6	26,294	79.68
1911.....	190,000	920	174,800	7.5	13,110	69.00
1912.....	228,000	860	196,080	11.0	21,569	94.60
1913.....	232,600	760	176,776	12.3	21,743	93.48
1914.....	244,200	920	224,664	8.1	18,198	74.52
1915.....	244,200	890	217,338	9.5	20,647	84.55
1916.....	265,000	970	257,050	15.5	39,843	150.35
1917.....	262,000	960	251,520	26.5	66,653	254.40
1918.....	300,000	1,040	312,000	32.6	101,712	339.04
1919.....	361,500	831	300,348	33.2	99,865	276.25
1920.....	364,500	789	287,716	13.5	38,769	106.36
1921.....	232,900	754	175,677	21.5	37,850	162.52
1922.....	322,700	857	276,399	26.8	74,165	229.83
1923.....	390,300	872	340,356	20.0	67,987	174.19
1924.....	348,400	849	295,778	20.1	59,497	170.77
1925.....	344,900	806	277,840	18.0	49,982	144.92
1926.....	347,000	832	288,793	13.1	37,696	108.63
1927.....	241,100	731	176,227	25.9	45,645	189.32
1928.....	329,700	816	269,136	30.5	82,051	248.87
1929.....	425,000	805	342,213	21.8	74,660	175.67
1930.....	470,700	738	347,297	15.4	53,517	113.70
1931 ¹	528,800	879	464,955	10.9	50,624	95.73

MARYLAND TOBACCO, TYPE 32

1909.....	26,100	684	17,846	8.3	1,481	56.74
1910.....	30,000	690	20,700	7.7	1,594	53.13
1911.....	26,000	735	19,110	7.5	1,433	55.12
1912.....	26,000	660	17,160	8.0	1,373	52.81
1913.....	25,000	740	18,500	9.3	1,720	68.80
1914.....	22,000	800	17,600	8.0	1,408	64.00
1915.....	22,000	740	16,280	8.5	1,384	62.91
1916.....	25,500	770	19,635	16.0	3,142	123.22
1917.....	28,600	790	22,594	20.0	4,519	158.01
1918.....	32,000	830	26,560	30.0	7,968	249.00
1919.....	29,000	675	19,575	26.5	5,187	178.86
1920.....	31,000	875	27,125	17.8	4,828	155.74
1921.....	26,000	715	18,590	16.9	3,142	120.85
1922.....	26,000	770	20,020	23.8	4,765	183.27
1923.....	27,000	792	21,384	27.7	5,923	219.37
1924.....	32,000	765	24,480	22.7	5,557	173.66
1925.....	30,000	823	24,690	23.7	5,852	195.07
1926.....	31,000	840	26,040	20.2	5,260	169.68
1927.....	32,000	818	26,176	23.4	6,125	191.41
1928.....	31,000	660	20,460	27.2	5,565	179.52
1929.....	33,000	750	24,750	27.7	6,856	207.76
1930.....	35,000	475	16,625	29.0	4,821	137.74
1931 ¹	38,000	830	31,540	24.0	7,570	199.21

¹ Estimated December, 1931.

Compiled from records of the Division of Crops and Livestock Estimates.

Extension of the Burley area into new districts is feasible only to the extent that the soils are suitable, and this limitation governs the degree to which Burley can be substituted for dark air-cured and dark-fired types. There are limited areas in the black patch where Burley can be grown with success. For example, in Ballard County, Ky., is a narrow strip of somewhat elevated land on which Burley has been produced for a number of years, although Paducah fire-cured is the predominant type in the surrounding country. Similarly, around Hopkinsville, especially south of that point, Burley seems to flourish. It is true of many soils, however, that the Burley they produce is at best of only mediocre quality. In years of scant supplies and high prices Burley will be profitable even on soils that for this type are marginal, but it will be unprofitable on such soils when supplies become ample and prices in general are lower.

Burley has long been one of the most popular of the manufacturing types. In the earlier years, before it developed into a cigarette type, this popularity rested upon its unusual availability for the manufacture of both chewing and smoking tobaccos. For the former use, the quality which most recommended this type to the manufacturer was its "drinking" capacity; that is, its remarkable ability to absorb the sweetening and flavoring sauces used in the manufacture of plug tobacco. It is claimed that Burley will take up 40 to 50 per cent of its own weight of such sauces. In this respect Burley tobacco is in a class by itself (11). In the manufacture of cut-plug and rubbed smoking tobacco Burley is predominant.

Burley tobacco, therefore, although not an important export type, meets a wide range of domestic manufacturing needs. The requirements for chewing purposes will probably continue to diminish; those for pipe smoking will probably always be large and may increase; those for cigarette manufacture will probably increase for many years to come. Since it will not be possible to produce cigarette tobacco to the exclusion of grades not suited for that purpose, Burley will be dependent upon outlets for its heavy leaf, and notwithstanding the dwindling consumption of chewing tobacco, the manufacture of smoking and chewing tobacco will probably supply such an outlet.

MARYLAND, TYPE 32

Tobacco was an important crop in Maryland even in earliest colonial times and, as in Virginia, is interwoven with the political and economic history of the colony.

Maryland enjoyed one important advantage over her sister colony to the west and south, because of a fundamental difference in the form of government. Virginia was ruled by a direct representative of the British Crown, and in all political and economic respects the colony was administered with an eye to the advantages that might accrue to the British Government and British commerce. It came about, therefore, that Virginia planters were not permitted to ship their tobacco except to English ports, and they could not take direct advantage of the rapidly spreading popularity of tobacco in continental Europe. English merchants, therefore, became necessary middlemen between Virginia growers and European consumers, and to a large extent were the beneficiaries of the expanding trade in Virginia tobacco. English shipowners were favored by governmental restrictions, which required that the tobacco be shipped in English bottoms.

Similar restrictions could not be placed upon Maryland, whose palatinate form of government gave the colony certain sovereign rights and exempted it from the application of British dominion policies.



FIGURE 11.—A tobacco-curing barn in Maryland, with partially harvested tobacco in the foreground. The barn has high, narrow doors which can be opened for the free circulation of air through the tobacco.



FIGURE 12.—A field of Maryland tobacco, with close planting and thin, upright leaves. (Compare with fig. 8)

The result was that very early an important trade in tobacco, which still persists, was established with France and the Netherlands.

Maryland tobacco is air cured except for a very small quantity known as upper country or bay, which is fire cured. The quantity is so small that it is not separated in the statistics of acreage and production for the State. Figure 11 shows the type of curing barn

used, which is so constructed as to permit free circulation of air. The tobacco is classed with Burley as light air-cured and some strains of it resemble the "stand-up" varieties of that type in appearance and habit of growth. (Compare figs. 8 and 12). Like Burley, it is relatively free from gum.

The outstanding characteristic of Maryland tobacco is its burn. By "burn" in tobacco is meant its capacity for holding fire, and in this respect Maryland tobacco excels most other American types. It is rather neutral in aroma. The combination of these two characteristics makes it possible to blend this type with other tobaccos, to improve the burning quality of the blend without disturbing the aroma and flavor sought. Certain grades of Maryland tobacco are therefore used in the manufacture of cigarettes.

As a rule, from 40 to 45 per cent of the crop is exported, although in some years a much larger portion of the crop goes abroad. France, the Netherlands, and Switzerland are the chief importing countries, and from 15 to 20 other countries use this type in quantities varying from a few hundred pounds to several hundred thousand pounds each year. (Tables 8 and 9.)

TABLE 8.—*Light air-cured tobacco: Production, stocks, and disappearance, 1912-1931*

[In million pounds; i. e., 000,000 omitted]

BURLEY, TYPE 31

Year	Production	Stocks on hand Oct. 1	Total supply	Disappearance, year beginning Oct. 1	Year	Production	Stocks on hand Oct. 1	Total supply	Disappearance, year beginning Oct. 1
1912	196.1	215.3	411.4	186.2	1922	276.4	280.9	557.3	214.4
1913	176.8	225.2	402.0	198.3	1923	340.4	342.9	683.3	255.0
1914	224.7	203.7	428.4	178.6	1924	295.8	423.3	724.1	265.0
1915	217.3	249.8	467.1	267.8	1925	277.8	459.1	736.9	270.9
1916	257.0	199.3	456.3	248.7	1926	238.8	466.0	704.8	303.5
1917	251.5	207.6	459.1	269.0	1927	176.2	451.3	627.5	279.7
1918	312.0	190.1	502.1	272.2	1928	269.1	347.8	616.9	284.5
1919	300.3	229.9	530.2	262.4	1929	342.2	332.4	674.6	301.6
1920	287.7	267.8	555.5	231.1	1930	347.3	373.0	720.3	283.5
1921	175.7	324.4	500.1	219.2	1931	465.0	436.8	901.8	315.9

MARYLAND,² TYPE 32

Year	Production	Stocks on hand Jan. 1, following year	Total supply	Disappearance, year beginning Jan. 1, of year indicated
1917	22.6	18.4	41.0	1918 22.4
1918	26.6	18.6	45.2	1919 23.9
1919	19.6	21.3	40.9	1920 24.4
1920	27.1	16.5	43.6	1921 29.5
1921	18.6	14.1	32.7	1922 22.0
1922	20.0	10.7	30.7	1923 23.9
1923	21.4	6.8	28.2	1924 16.7
1924	24.5	11.5	36.0	1925 21.0
1925	24.7	15.0	39.7	1926 21.0
1926	26.0	18.7	44.7	1927 29.4
1927	26.2	15.3	41.5	1928 21.3
1928	20.5	20.2	40.7	1929 25.4
1929	24.8	15.3	40.1	1930 23.1
1930	16.6	17.0	33.6	1931 12.6
1931	31.5	21.0	52.5	

¹ Estimated December, 1931.

² The marketing season for Maryland tobacco begins about Jan. 1 of the year next succeeding the year of production. Computations of supply and disappearance are, therefore, based on the marketing year. For example, the crop of 1917 plus the stocks on Jan. 1, 1918, is taken to represent the supply for the latter year. Stocks remaining on hand Jan. 1, 1919, are deducted from that supply to arrive at disappearance during the calendar year 1918.

Production data compiled from records of the Division of Crop and Livestock Estimates. Stocks compiled from reports of the Bureau of the Census prior to Apr. 1, 1929; since Apr. 1, 1929, compiled from tobacco stocks report of the Tobacco Section.

TABLE 9.—Exports of light air-cured tobacco from the United States to principal importing countries, 1923-1931

BURLEY, TYPE 31

Importing country	Calendar year—								
	1923	1924	1925	1926	1927	1928	1929	1930	1931
	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>
Belgium.....	2,393	1,045	2,295	3,450	5,697	1,924	1,483	3,867	3,073
France.....	1,563	1,096	0	413	229	149	8	16	471
Portugal.....	498	1,396	1,248	1,094	2,362	1,238	1,433	2,746	1,635
Netherlands.....	184	795	200	136	3,332	60	151	156	382
Germany.....	263	443	33	197	1,618	185	103	209	387
Other countries.....	1,100	2,623	2,241	1,439	4,606	2,988	2,158	2,630	2,971
Total.....	6,001	7,398	6,017	6,729	17,844	6,544	5,336	9,624	8,919
	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>
Belgium.....	39.9	14.1	38.1	51.2	31.9	29.4	27.8	40.2	34.5
France.....	26.0	14.8	0	6.1	1.3	2.3	.2	.2	5.3
Portugal.....	8.3	18.9	20.7	16.2	13.2	18.9	26.9	28.5	18.3
Netherlands.....	3.1	10.8	3.3	2.0	18.7	.9	2.8	1.6	4.3
Germany.....	4.4	6.0	.6	2.9	9.1	2.9	1.9	2.2	4.3
Other countries.....	18.3	35.4	37.3	21.6	25.8	45.6	40.4	27.3	33.3

MARYLAND, TYPE 32, AND OHIO EXPORT

	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>
France.....	6,677	6,196	6,404	5,514	8,957	3,547	6,016	3,253	3,788
Netherlands.....	5,828	3,663	2,947	4,595	5,317	3,328	1,435	1,080	546
Belgium.....	1,187	618	1,693	528	885	694	642	1,039	597
Germany.....	1,542	591	297	674	942	426	492	185	115
Switzerland.....	692	365	581	946	1,369	1,487	1,788	1,700	1,903
Other countries.....	2,136	1,398	1,991	1,335	2,566	1,465	1,204	2,464	600
Total.....	18,062	12,831	13,913	13,592	20,036	10,947	11,577	9,721	7,549
	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>
France.....	37.0	48.3	46.0	40.6	44.7	32.4	52.0	33.5	50.2
Netherlands.....	32.3	28.6	21.2	33.8	26.5	30.4	12.4	11.1	7.2
Belgium.....	6.6	4.8	12.2	3.9	4.4	6.3	5.5	10.7	7.9
Germany.....	8.5	4.6	2.1	4.9	4.7	3.9	4.3	1.9	1.5
Switzerland.....	3.8	2.8	4.2	7.0	6.8	13.6	15.4	17.5	25.2
Other countries.....	11.8	10.9	14.3	9.8	12.9	13.4	10.4	25.3	8.0

Compiled from Foreign Commerce and Navigation of the United States, 1923-1930, and official records of the Bureau of Foreign and Domestic Commerce, 1931.

A "hand" of Maryland tobacco which differs in appearance from hands of other types is shown in Figure 13.

In export statistics Maryland tobacco is combined with eastern Ohio export.

EASTERN OHIO EXPORT

Eastern Ohio export formerly of considerable importance, has dwindled to an average annual production of less than 1,000,000 pounds. The association of eastern Ohio export with Maryland results from the fact that Baltimore has always been its principal market. The type may have had its origin in Maryland in the upper country or bay district. The curing methods employed are a curious mixture of air, fire, and flue curing, all three methods being used in the district around Barnesville, Ohio, in which the present production is localized. Figures 14, 15, and 16 illustrate types of curing barns in the eastern Ohio export district.



FIGURE 13.—Maryland fine colory export tobacco, showing how hands are fanned out in packing

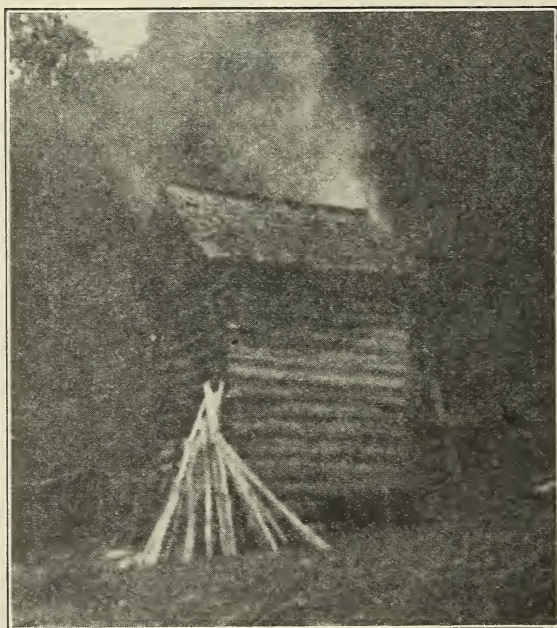


FIGURE 14.—An old fire-curing barn in the eastern Ohio export district. This small district, formerly important, has a mixture of curing methods. Fire, flue, and air curing are practiced

In former years there was a demand for "spangled" tobacco of the eastern Ohio export type. The spangled appearance was induced by dashing small quantities of water on the tobacco while curing, causing

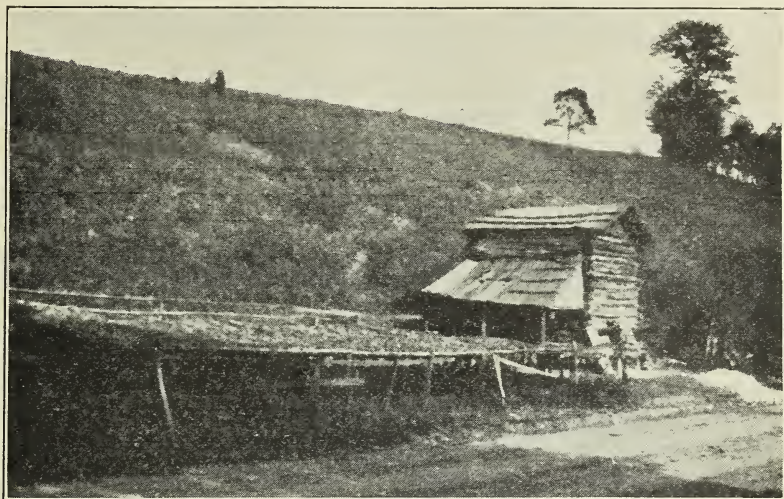


FIGURE 15.—A flue-curing barn in the eastern Ohio export district. Tobacco being wilted in the sun preliminary to hanging in the barn, shown above, suggests the sun curing of earlier days in Virginia

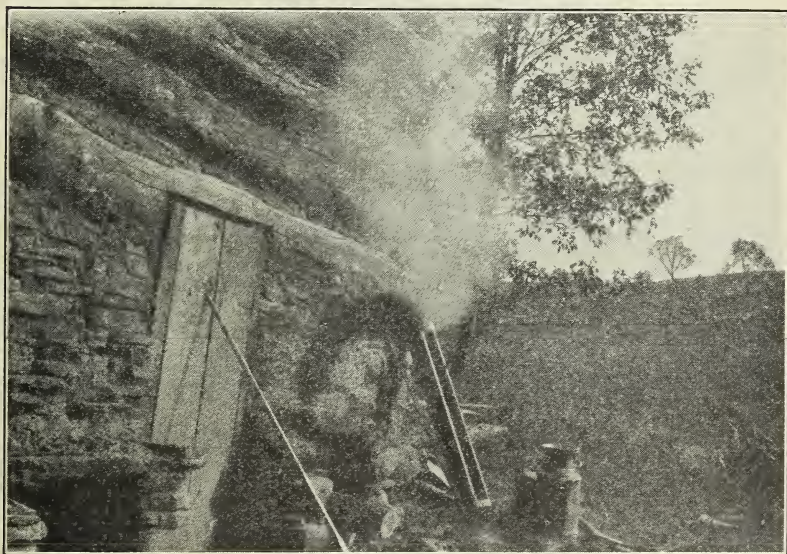


FIGURE 16.—A flue-curing barn in operation in the eastern Ohio export district. The door is tightly closed, and smoke issues from the flue

a splotted appearance. This was supposed to indicate a desirable quality.

No data are available as to the acreage, yield per acre, or farm prices in earlier years, but it has been found possible to obtain a record of the annual inspections of Ohio export tobacco on the Balti-

more market which extends unbroken back to 1840. (Table 10.) To what extent, if any, this type was sold through other markets such as Cincinnati when that city was an important hogshead tobacco market, is unknown. This table represents the only information available on the subject. A hogshead of this tobacco at present weighs between 650 and 700 pounds.

TABLE 10.—*Inspections of eastern Ohio export tobacco at Baltimore, Md., 1840-1931*

Year	Hogsheads	Year	Hogsheads	Year	Hogsheads	Year	Hogsheads
1840	8,314	1863	17,118	1886	12,968	1909	1,988
1841	7,692	1864	22,024	1887	13,763	1910	3,249
1842	11,279	1865	15,396	1888	6,486	1911	4,733
1843	13,465	1866	15,782	1889	6,512	1912	6,376
1844	15,320	1867	22,454	1890	4,498	1913	4,381
1845	26,624	1868	10,076	1891	5,459	1914	3,422
1846	28,862	1869	15,716	1892	6,059	1915	4,324
1847	15,671	1870	13,614	1893	7,720	1916	2,700
1848	9,845	1871	14,432	1894	10,973	1917	2,388
1849	13,618	1872	16,347	1895	6,889	1918	3,680
1850	13,965	1873	24,034	1896	4,360	1919	4,888
1851	16,791	1874	28,599	1897	8,043	1920	2,984
1852	17,720	1875	6,036	1898	5,970	1921	432
1853	17,947	1876	17,800	1899	7,224	1922	550
1854	10,362	1877	22,914	1900	3,453	1923	1,345
1855	10,097	1878	16,955	1901	4,443	1924	902
1856	12,959	1879	16,660	1902	4,818	1925	432
1857	7,640	1880	8,285	1903	5,016	1926	761
1858	21,896	1881	12,443	1904	4,231	1927	934
1859	15,277	1882	8,215	1905	4,919	1928	941
1860	23,593	1883	7,650	1906	6,507	1929	1,078
1861	14,152	1884	5,866	1907	4,149	1930	1,826
1862	13,600	1885	8,698	1908	2,218	1931	350

DARK AIR-CURED TYPES

The dark air-cured tobaccos are One Sucker, Green River, and Virginia sun-cured. They contain no cigarette grades.

ONE SUCKER, TYPE 35

One Sucker is a manufacturing type of tobacco belonging to the dark air-cured class. It is grown mainly in a group of counties in southern Kentucky. Smaller quantities are grown in northern Tennessee and southern Indiana. At one time this type was grown to some extent in Virginia. The name comes from the fact that the removal of suckers, which sprout from the axils of the leaves, is supposed to be necessary only once during the growing season, whereas in other types it is necessary to sucker the crop at least twice. Although One Sucker does not live up to its name very faithfully, the name is firmly established.

One Sucker is distinctive in appearance, being of rather rank growth, with unusually long, narrow leaves in contrast with the broad leaves of other dark tobacco types. (Fig. 17.) The midribs are excessively large, and the veins are at a much sharper angle in relation to the midrib than is true of any other type. Because of the large size of the midrib and the narrowness of the leaf, the loss in weight from stemming is considerably higher than for most other types.

One Sucker thrives and produces relatively heavy yields on rough, hilly land not well adapted to other types. Many soils adapted to Burley will also produce One Sucker, but the higher prices commanded by the former are gradually eliminating One Sucker from

such areas. This process of elimination arises directly from the fact that being darker, coarser, and stronger than Burley, it is unsuitable for smoking and cigarette purposes and therefore does not command the prices paid for cigarette types.

The principal use of One Sucker is in the manufacture of chewing tobacco. A part of the demand is in the domestic manufacture of twist, and a part in what is known as the rehandling trade. The



FIGURE 17.—Plant of One Sucker tobacco, type 35. The leaves are long and narrow, and the veins make an unusually acute angle with the midrib

declining consumption of chewing tobacco in this country (Table 20) has greatly reduced the domestic demand.

THE REHANDLING TRADE

The rehandling trade, which relates primarily to One Sucker tobacco but to some extent to dark-fired types 22, 23, and 24, represents a unique phase of the tobacco industry. Selected grades are subjected to heating and other processes to blacken the tobacco, which is then exported to the west coast of Africa, the West Indies, and Central America. For shipment to certain of these countries, includ-

ing Nigeria, Cameroons, and Dahomey, the tobacco is heavily coated with a mineral oil and is packed in cases under heavy pressure. The oil was originally applied to prevent the leaves from sticking together, but the natives have now developed a taste for the oiled tobacco and this form of processing has become necessary from the standpoint of established demand.

Among the natives of some African tribes length of leaf rather than weight is the standard of measurement, and this has been a factor in the development of strains of One Sucker having long narrow leaves. Among some tribes tobacco passes as currency.

Demand among various west-African ports varies, not only as to the grade of leaf but as to the character of processing and as to size of container. A requisite in some parts, for example, is that the case shall be of such dimensions that the African chieftain who buys it can load it into his dugout or canoe for transportation back into the country.

The following account of some of the methods of using One Sucker and native types of tobacco in Africa was supplied by H. W. Taylor.⁵

Natives of South Africa use One Sucker tobacco and marula nuts in making snuff. The marula is a stone fruit somewhat larger than a walnut. A potent beer is made of the flesh, and the kernel is roasted and pulverized. The stems of the tobacco are burned for the ashes. The tobacco leaves are ground in a stone mortar and mixed with the ashes of the stems and the pulverized marula nuts.

In Southeast Africa *rustica* (*Nicotiana rustica*)⁶ is used instead of American tobacco. Among the Pondos in the section southwest of Durban a native tobacco is used after a method of curing resembling that for Perique.⁷

The green leaves are packed in an earthen pot by pounding with a pestle. After a few days of fermentation the mass is spread out on the ground and allowed to become partially dry. This process is repeated three or four times until the tobacco becomes very black, when it is repacked, and the mouth of the pot is covered tightly with a piece of goatskin. The pot is then buried in a manure pile for several months after which the tobacco is considered ready for use. These balls of tobacco command high prices among the natives.

GREEN RIVER, TYPE 36

Green River, the second of the dark air-cured group, is grown in a group of counties in western Kentucky on or near the Ohio River. The name is derived from the river of the same name which flows into the Ohio between Henderson and Owensboro, the two markets handling the entire Green River production.

This type (fig. 18) is used to some extent for chewing tobacco, but its principal outlet has been through the export trade, especially with Great Britain. The increasing consumption of cigarette types has lessened the demand for Green River, and production is now on a relatively small scale.

Formerly the Green River district was centered mainly around Owensboro, Ky. Lying immediately to the west was the Henderson stemming district, or Henderson fire cured, type 24. The principal difference between the two types lay in the curing methods employed—air curing and fire curing, respectively. The Green River district as now constituted includes a considerable portion of the old stem-

⁵ TAYLOR, H. W., unpublished report.

⁶ *N. rustica*, is a coarse variety of the genus *Nicotiana* which is unusually high in nicotine content. It is produced on a small scale in this country, where its principal use is in the manufacture of nicotine sulphate for insecticides. The tobacco of commerce is *N. tabacum*.

⁷ See Perique, p. 35.

ming district, where the increasing cost of wood for firing purposes has caused growers to shift to the cheaper method of air curing.

During recent years there has been a considerable production of Burley in the Green River district, stimulated by the higher prices usually paid for Burley, but the soils of this portion of Kentucky are not suited to production of the best grades of that type.



FIGURE 18.—Typical Yellow Pryor tobacco plant, commonly grown in the Green River district of Kentucky

VIRGINIA SUN-CURED, TYPE 37

Virginia sun-cured tobacco is the third of the dark air-cured group. The quantity produced has dwindled greatly because of changes in consuming habits. The name refers to the former practice of hanging the tobacco in the sun during a part of the curing process. (Fig. 19 and Tables 11, 12, and 13.)

The principal use of Virginia sun cured is in the manufacture of plug chewing tobacco, for which it is especially suited. The district in which it is raised includes all or parts of the following counties of Virginia: Caroline, Hanover, Louisa, Goochland, Fluvanna, and Spotsylvania. At times, following years when the prices paid for

Virginia fire-cured tobacco have been unusually low, the sun-cured district has expanded into portions of Cumberland, Powhatan, and

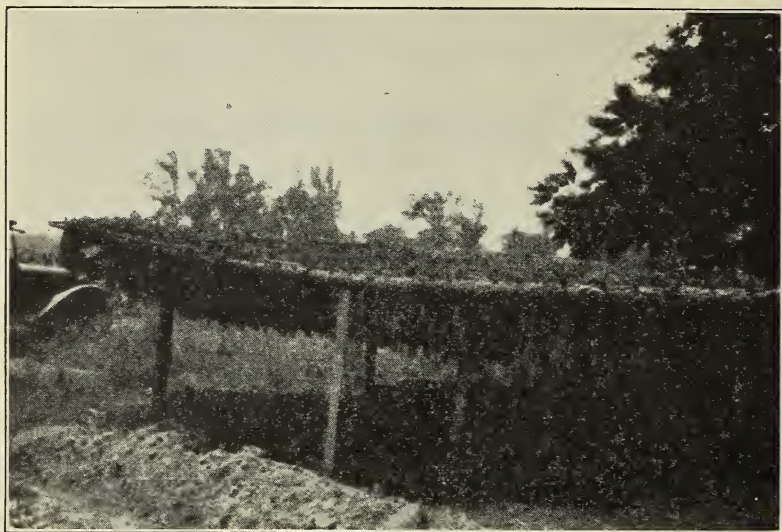


FIGURE 19.—Sun curing tobacco, the method once generally practiced in the Virginia sun-cured district. The tobacco was hung out in the sun during part of the curing period. This method probably originated with the Indians. Air curing in open barns is the general practice now in the sun-cured district

Chesterfield Counties, south of the James River. Richmond is the only market.

TABLE 11.—*Dark air-cured tobacco: Acreage, production, and price, 1909–1931*

ONE SUCKER, TYPE 35

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
	<i>Acres</i>	<i>Pounds</i>	<i>1,000 pounds</i>	<i>Cents</i>	<i>1,000 dollars</i>	<i>Dollars</i>
1909.....	25,300	749	18,944	6.6	1,250	49.41
1910.....	22,000	750	16,500	6.8	1,122	51.00
1911.....	18,000	860	15,480	7.0	1,084	60.22
1912.....	23,000	720	16,560	6.5	1,076	46.78
1913.....	38,400	736	28,248	7.1	2,011	52.37
1914.....	38,400	960	36,864	5.6	2,064	53.75
1915.....	38,400	780	29,952	5.5	1,647	42.89
1916.....	48,000	870	41,760	10.0	4,176	87.00
1917.....	50,000	900	45,000	17.0	7,650	153.00
1918.....	50,000	900	45,000	14.4	6,480	129.60
1919.....	84,500	813	68,688	14.2	9,722	115.05
1920.....	65,500	819	53,638	7.2	3,879	59.22
1921.....	33,600	843	28,331	12.2	3,455	102.83
1922.....	60,800	859	52,202	12.8	6,659	109.52
1923.....	66,600	827	55,111	9.9	5,446	81.77
1924.....	49,900	782	39,010	11.2	4,351	87.19
1925.....	44,100	806	35,534	8.4	2,987	67.73
1926.....	34,500	905	31,213	6.4	1,995	57.83
1927.....	18,100	722	13,071	10.6	1,388	76.69
1928.....	26,300	760	19,992	12.4	2,470	93.92
1929.....	35,300	847	29,903	10.5	3,144	89.07
1930.....	36,400	807	29,388	7.0	2,065	56.73
1931 ¹	35,300	852	30,060	5.1	1,534	43.46

¹ Estimated December, 1931.

TABLE 11.—*Dark air-cured tobacco: Acreage, production, and price, 1909-1931—Continued*

GREEN RIVER, TYPE 36

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
	<i>Acres</i>	<i>Pounds</i>	<i>1,000 pounds</i>	<i>Cents</i>	<i>1,000 dollars</i>	<i>Dollars</i>
1919 ²	77,000	780	60,060	16.0	9,610	124.81
1920	59,700	796	47,521	9.0	4,277	71.64
1921	39,300	881	34,623	15.0	5,193	132.14
1922	64,000	893	57,152	16.0	9,144	142.88
1923	67,000	880	58,960	11.0	6,486	96.81
1924	57,300	830	47,559	11.6	5,517	96.28
1925	60,000	850	51,000	6.9	3,519	58.65
1926	47,000	851	39,997	7.4	2,960	62.98
1927	27,900	649	18,107	9.1	1,648	59.07
1928	27,000	700	18,900	11.5	2,174	80.52
1929	32,600	840	27,384	10.7	2,930	89.88
1930	36,000	785	28,260	8.9	2,515	69.86
1931 ¹	41,400	889	36,797	4.5	1,656	40.00

VIRGINIA SUN-CURED, TYPE 37

1909	11,300	786	8,883	8.4	746	66.02
1910	15,000	810	12,150	8.5	1,033	68.87
1911	12,000	800	9,600	9.0	864	72.00
1912	15,000	650	9,750	8.0	780	52.00
1913	15,900	800	12,720	8.5	1,081	67.99
1914	12,000	760	9,120	6.5	593	49.42
1915	12,000	850	10,200	8.0	816	68.00
1916	12,000	690	8,280	14.0	1,159	96.58
1917	11,000	800	8,800	28.5	2,508	228.00
1918	14,000	850	11,900	20.5	2,440	174.29
1919	12,000	500	6,000	28.0	1,680	140.00
1920	12,000	755	9,060	9.2	834	69.50
1921	6,900	579	3,995	18.2	728	105.51
1922	10,600	770	8,162	14.3	1,167	110.09
1923	8,000	775	6,200	13.2	818	102.25
1924	7,500	750	5,625	14.6	821	109.47
1925	7,200	795	5,724	16.4	939	130.42
1926	9,000	802	7,218	9.4	678	75.33
1927	6,700	821	5,501	13.1	721	107.61
1928	7,200	692	4,982	10.1	503	69.86
1929	5,100	811	4,134	13.2	546	107.06
1930	5,800	582	3,377	7.7	260	44.83
1931 ¹	6,000	800	4,800	6.0	288	48.00

¹ Estimated December, 1931.² Prior to 1919, data for Green River and Henderson were combined.

Compiled from records of the Division of Crop and Livestock Estimates.

TABLE 12.—*Dark air-cured tobacco: Production, stocks, and disappearance, 1912-1931*

(In million pounds; i. e., 000,000 omitted)

ONE SUCKER, TYPE 35

Year	Production	Stocks on hand Oct. 1	Total supply	Disappearance year beginning Oct. 1	Year	Production	Stocks on hand Oct. 1	Total supply	Disappearance year beginning Oct. 1
1912	16.6	22.6	39.2	7.3	1922	52.2	36.4	88.6	54.8
1913	28.2	31.9	60.1	32.3	1923	55.1	33.8	88.9	47.1
1914	36.9	27.8	64.7	42.4	1924	39.0	41.8	80.8	38.4
1915	30.0	22.3	52.3	35.6	1925	35.5	42.4	77.9	28.0
1916	41.8	16.7	58.5	39.9	1926	31.2	49.9	81.1	39.4
1917	45.0	18.6	63.6	27.7	1927	13.1	41.7	54.8	27.9
1918	45.0	35.9	80.9	48.4	1928	20.0	26.9	46.9	25.5
1919	68.7	32.5	101.2	56.6	1929	29.9	21.4	51.3	26.2
1920	53.6	44.6	98.2	50.6	1930	29.4	25.1	54.5	22.2
1921	28.3	47.6	75.9	39.5	1931	¹ 30.1	32.3	62.4	28.7

¹ Estimated December, 1931.

TABLE 12.—*Dark air-cured tobacco: Production, stocks, and disappearance, 1912-1931—Continued*

GREEN RIVER, TYPE 36

Year	Production	Stocks on hand Oct. 1	Total supply	Disappearance year beginning Oct. 1	Year	Production	Stocks on hand Oct. 1	Total supply	Disappearance year beginning Oct. 1
1919-----	60.1	40.5	100.6	53.4	1926-----	40.0	51.7	91.7	43.3
1920-----	47.5	47.2	94.7	49.7	1927-----	18.1	48.4	66.5	26.4
1921-----	34.6	45.0	79.6	40.5	1928-----	18.9	40.1	59.0	28.2
1922-----	57.2	39.1	96.3	44.1	1929-----	27.4	30.8	58.2	34.4
1923-----	59.0	52.2	111.2	56.5	1930-----	28.3	23.8	52.1	27.9
1924-----	47.6	54.7	102.3	50.3	1931-----	136.8	24.2	61.0	24.7
1925-----	51.0	52.0	103.0	51.3					

VIRGINIA SUN CURED, TYPE 37

1912-----	9.8	11.2	21.0	10.7	1922-----	8.2	8.3	16.5	8.2
1913-----	12.7	10.3	23.0	9.8	1923-----	6.2	8.3	14.5	8.2
1914-----	9.1	13.2	22.3	12.8	1924-----	5.6	6.3	11.9	7.7
1915-----	10.2	9.5	19.7	12.4	1925-----	5.7	4.2	9.9	5.7
1916-----	8.3	7.3	15.6	10.7	1926-----	7.2	4.2	11.4	5.5
1917-----	8.8	4.9	13.7	7.4	1927-----	5.5	5.9	11.4	6.3
1918-----	11.9	6.3	18.2	9.6	1928-----	5.0	5.1	10.1	4.6
1919-----	6.0	8.6	14.6	4.9	1929-----	4.1	5.5	9.6	5.7
1920-----	9.1	9.7	18.8	9.3	1930-----	3.4	3.9	7.3	3.8
1921-----	4.0	9.5	13.5	5.2	1931-----	14.8	3.5	8.3	4.9

¹ Estimated December, 1931.

Production data compiled from records of the Division of Crop and Livestock Estimates. Stocks compiled from reports of the Bureau of the Census prior to Apr. 1, 1929; since Apr. 1, 1929, compiled from the tobacco stocks report of the tobacco section.

TABLE 13.—*Exports of dark air-cured tobacco from the United States to principal importing countries, 1923-1931*ONE SUCKER,¹ TYPE 35

Importing country	Calendar year—								
	1923	1924	1925	1926	1927	1928	1929	1930	1931
	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>
Belgium-----					1,588	921	208	790	981
British West Africa-----					2,087	1,694	2,370	1,154	89
Other countries-----					2,695	612	635	845	407
Total-----					6,370	3,227	3,213	2,789	1,477
	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>
Belgium-----					24.9	28.5	6.5	28.3	66.4
British West Africa-----					32.8	52.5	73.8	41.4	6.0
Other countries-----					42.3	19.0	19.7	30.3	27.6

GREEN RIVER, TYPE 36

	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>
United Kingdom-----	10,099	6,093	9,018	3,638	4,615	2,401	5,434	4,117	4,205
British West Africa-----	32	446	2,798	3,122	1,347	817	1,044	310	89
China-----	36	2,568	2,286	2,663	1,025	214	540	455	-----
Belgium-----	1,025	2,097	700	1,491	900	698	594	1,177	475
Other countries-----	2,865	4,881	3,169	3,162	4,942	4,238	2,750	1,860	578
Total-----	14,057	16,085	17,971	14,076	12,829	8,368	10,362	7,919	5,347
	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>
United Kingdom-----	71.8	37.9	50.2	25.8	36.0	28.7	52.4	52.0	78.6
British West Africa-----	.2	2.8	15.6	22.2	10.5	9.8	10.1	3.9	1.7
China-----	.3	16.0	12.7	18.9	8.0	2.6	5.2	5.7	0
Belgium-----	7.3	13.0	3.9	10.6	7.0	8.3	5.7	14.9	8.9
Other countries-----	20.4	30.3	17.6	22.5	38.5	50.6	26.6	23.5	10.8

¹ Prior to Jan. 1, 1927, included with Green River.² Includes Ireland; beginning 1925, Irish Free State is not included.

TABLE 13.—*Exports of dark air-cured tobacco from the United States to principal importing countries, 1923-1931—Continued*BLACK FAT AND DARK AFRICAN,³ CONSISTING PRINCIPALLY OF ONE SUCKER

Importing country	Calendar year—								
	1923	1924	1925	1926	1927	1928	1929	1930	1931
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds
British Guiana					65	132	74	240	194
British West Africa					252	608	2,179	4,390	4,634
French Africa					107	356	2,331	2,059	2,480
Other countries					195	404	1,071	1,385	1,365
Total					619	1,500	5,655	8,074	8,673
	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
British Guiana					10.5	8.8	1.3	3.0	2.2
British West Africa					40.7	40.5	38.5	54.4	53.4
French Africa					16.9	23.7	41.2	25.4	28.6
Other countries					31.9	27.0	19.0	17.2	15.8

³ Prior to Jan. 1, 1927, included with other leaf.

Compiled from Foreign Commerce and Navigation of the United States, 1923-1930, and official records of the Bureau of Foreign and Domestic Commerce, 1931.

PERIQUE TOBACCO

The perique-tobacco district, so far as its size and output are concerned, does not rank high in importance and is sometimes omitted from the list of American tobacco types. (Table 14.) The methods employed in its preparation are unique and interesting.

TABLE 14.—*Louisiana tobacco: Acreage, production, and price, 1919-1931*

Year	Acreage	Yield per acre	Produc- tion	Price per pound	Farm value	Value per acre
	<i>Acres</i>	<i>Pounds</i>	<i>1,000 pounds</i>	<i>Cents</i>	<i>1,000 dollars</i>	<i>Dollars</i>
1919	800	435	348	65.0	226	232.50
1920	800	475	380	49.0	152	190.00
1921	900	465	418	55.0	230	255.56
1922	1,100	435	478	55.0	263	239.09
1923	900	440	396	50.0	198	220.00
1924	800	400	320	55.0	176	220.00
1925	800	450	360	55.0	198	247.50
1926	100	400	40	45.0	18	180.00
1927	100	420	42	45.0	19	190.00
1928	200	405	81	45.0	36	180.00
1929	300	400	120	40.0	48	160.00
1930	600	445	267	30.0	80	133.33
1931 ¹	600	410	246	26.0	64	106.67

¹ Estimated December, 1931.

Compiled from records of the Division of Crop and Livestock Estimates.

Perique tobacco, used in small quantities in the manufacture of fancy smoking tobacco, is grown on the more elevated and drier portions of the rich Mississippi alluvial soil in the heart of the sugarcane and rice country in St. James Parish, La.

The entire plant is cut and is hung from wires stretched across the barn. Each plant is suspended separately by means of a nail driven partly into the butt of the stalk at an angle.

In about 10 days, when most of the leaves are sufficiently cured to strip, they are made up into large twists about a foot long, weighing approximately 1 pound each. About 50 of these twists in very soft order are then packed in strong pressing boxes 11 inches square and 16 inches high. The tobacco is then placed under very high pressure by means of lever presses. (Fig. 20.) Heavy weights, usually of stone, are applied at the long end of the lever in order to give a steady, uniform pressure, such as could not be obtained with a screw, the object being to start the black and sticky juices to ooze from the leaves.

The boxes are opened every day or two for two weeks, and the twists are loosened to allow the air and moisture to reach all parts and so that the juices will be pressed out and be reabsorbed uniformly



FIGURE 20.—Working (loosening and aerating) the twists of Perique tobacco during the pressing process

throughout the twist. This procedure, with some modification, is continued for several months, during which time the blackened, gummy tobacco mellows and ages and acquires the aromatic fragrance peculiar to Perique. The tobacco is ready for use about eight months after harvest.

It is not certain that this peculiar method of curing tobacco was originated in its essentials by the Acadians, as some think. The natives of some Central American and South American countries have for years been putting up tobacco in twists after subjecting it to heavy pressure by windlass or other devices, and certain African tribes practice a method of curing analogous to that used in Louisiana. Many European manufacturers put up coil tobacco, blackened by heavy pressure and absorbed juices, which possesses much the appearance and aroma of Perique.

CIGAR TOBACCO

All types of cigar tobacco are air cured. They are classified according to the principal use to be made of the tobacco, that is—filler, binder, and wrapper types—although all are used for other purposes. For instance, select grades of filler types are used occasionally for binder purposes; tobacco from binder and wrapper types may be used for all three purposes; and low-grade tobacco from all types finds its way into scrap chewing. The terms “filler,” “binder,” and “wrapper” are defined as follows:

Filler: Tobacco used in forming the core of a cigar. It predominates in the aroma.

Binder: Tobacco used to bind the filler and to shape it into the “bunch.” The binder also acts as a protection for the wrapper during the manufacturing process. It is of a fine and elastic texture and is rolled around the coarser filler. The use of a binder makes possible the use of a very thin and attractive wrapper on the cigar. Otherwise, the core of filler tobacco would present irregularities and probably puncture the wrapper, thus requiring replacement and causing a loss.

Wrapper: Tobacco used for covering the “bunch” formed by inclosing the filler in the binder and to make the finished cigar attractive.

The scrap-chewing industry is a valuable adjunct to the cigar industry, for it provides the grower with an outlet for large volumes of leaf not suited for cigar-manufacturing purposes. This is an important consideration, for even in the most favorable season some tobacco, because of the position of its growth on the stalk or because of damage, will lack the quality requisite for manufacture into cigars; and in years of unfavorable growing conditions and times of hail injury the quantity of such low-grade tobacco may be great. Low as the prices for this so-called stemming tobacco sometimes are, they save the growers from partial or total loss.

The prices paid for stemming tobacco are not always low. In years of scant supplies they may be high enough to afford active competition for some grades usable in cigars.

There are physical differences between the three classes. Filler types are relatively coarse in texture and heavy in body. The important considerations are the aroma and burn. Color is of importance only as it indicates qualities sought by the manufacturers; so far as the cigar consumer is concerned, the color of the filler is not considered.

With respect to the binder, color is a factor only to the extent that it indicates other qualities. But binder leaf must be thinner and of finer texture than filler and more elastic. Its purpose is to hold the bunched filler in shape; this calls for a degree of elasticity not required in fillers. Although the binder constitutes a very small percentage of the total bulk of the cigar, its effect on the aroma is important. In selecting a binder the manufacturer is guided by aroma and the physical qualities needed. Good burn, meaning complete and even combustion, is generally required of binder tobacco. Poor-burning binders will affect the burn of the wrapper, and in charring will impair the even burn desired in a cigar. Likewise, good burning binders will help the burn of a poor-burning wrapper. Poor or uneven burn of a cigar makes it disagreeable to the smoker as well as unsightly. Binder tobacco, therefore, commands a higher price than filler.

The peak of quality of cigar tobacco is reached in wrapper types. Not only is the question of aroma and burn as important as in the

case of filler and binder types, and the requirements as to fineness of texture, freedom from injury and blemish greater than in the case of binders, but there is the added factor of color. In fillers and binders color is important only as an index of quality, but in wrappers color is important as such, because the majority of cigar smokers are guided in their selection of cigars by the color of the wrapper.

This brings about an anomalous situation. It seems to be an accepted fact among smokers that a dark wrapper indicates a strong cigar and a light wrapper a mild one. Demand is greatest for mild cigars, or cigars that have the appearance of being mild on account of being light in color. This is a mistaken assumption, for color indicates maturity of the leaf. A mature wrapper, even though dark, as a rule will produce a milder, sweeter, more fragrant smoke than an immature wrapper. The latter may have a more attractive color, but the immaturity by which the lightness of color may have been obtained often has a deleterious effect on the smoke.

The requirements for producing good wrapper tobacco are so manifold as to make the requirements as to soil, climatic conditions, and cultural practices the most exacting to be found in the tobacco-producing industry, and the prices paid are therefore higher than for any other class of American-grown tobacco.

FERMENTATION OR SWEATING OF CIGAR TOBACCO

A description of the fermentation or sweating process in cigar tobacco is given in Farmers' Bulletin 1580, Cigar-Tobacco Production in Pennsylvania (12).

CIGAR-TOBACCO DISTRICTS

The cigar-tobacco districts of major importance are located in New England, Pennsylvania, Ohio, and Wisconsin. Other districts are located in Georgia, Florida, New York, and Minnesota. In some districts different types and classes of tobacco are found growing side by side. For this reason it is more convenient to discuss the subject on a regional basis rather than by types and classes as has been done with other types.

For statistics of cigar-tobacco types see pages 46 to 51.

NEW ENGLAND

Tobacco production in New England centers mainly in the Connecticut Valley, with a smaller area in the Housatonic Valley to the west. Of the total New England production roughly one-fourth is in Massachusetts and three-fourths in Connecticut. Vermont and sometimes New Hampshire produce insignificant quantities.

The production of New England, or the Connecticut Valley as the district is commonly known, is of three types: Broadleaf, U. S. type 51; Havana Seed, type 52; and shade-grown, type 61. A fourth type, Round Tip, obtained by crossing Broadleaf and Sumatra, was grown on a small scale during the years 1920 to 1924, inclusive.

Broadleaf (fig. 21) and Havana Seed are primarily cigar-binder types. The choicest grades of both, however, find a limited use as cigar wrappers, whereas the low grades and injured leaves are used as cigar filler and in the manufacture of scrap chewing.

In harvesting Broadleaf and Havana Seed the entire stalks are cut, allowed to wilt in the field, and then hung in the curing barn. In

some years relatively small quantities of Havana Seed are primed instead of being stalk cut, resulting in a higher proportion of wrapper grades. Such tobacco is commonly referred to as primed Havana Seed.

For a number of years a small portion of the Havana Seed crop has been raised for wrapper purposes. It was known to the trade as Primed Havana Seed and was at one time recognized officially as a wrapper type. Strictly speaking, it is not a separate type of tobacco but is the result of special care in the handling of type 52. Ordinarily Havana Seed is stalk cut. By closer planting and special care in cultivation and curing and by priming instead of stalk-cutting a finer quality of tobacco is obtained. Because of the additional cost of production the quantity grown is small and is no longer reported upon separately. In Table 16 it is shown as type 52 (b).



FIGURE 21.—A field of Connecticut Valley Broadleaf, type 51, a cigar-binder type of tobacco

The weather during the latter part of August is important to the grower. Early hailstorms frequently riddle a crop and destroy its binder qualities. Likewise, a frost at this time is injurious to tobacco in the field. The Havana Seed, U. S. type 52, is generally "force sweated." This differs from the natural sweating of Broadleaf, U. S. type 51, in that the packed tobacco is stored in air-tight heated chambers. By this process the binder grades are available for marketing early in the year following their production whereas the Broadleaf, U. S. type 51, is not ready until the fall of the year ensuing its production. Broadleaf, U. S. type 51, is graded into various groups, known in the trade as light wrappers, medium wrappers, dark wrappers, long seconds, short seconds, brokes (or No. 2 seconds), fillers, and tops. The percentage of light wrappers produced is nominal. The medium wrappers and long seconds are used for binder purposes in high-grade cigars and command good prices. The dark wrappers and an inferior subgrade known as No. 2 darks culled from tops, short seconds, and brokes are used for binders, on less expensive cigars. The fillers and tops are used for cigar fillers. Havana Seed,

U. S. type 52, is graded similarly to the Broadleaf and in addition is sized to United States standard sizes. The various grades are used for purposes similar to those for the corresponding grades of Broadleaf, U. S. type 51.

The tobacco grown in the Connecticut Valley is used in the manufacture of cigars and is air cured. Figure 22 shows the arrangements for controlling ventilation in a tobacco-curing barn in this section.

From 75 to 80 per cent of all the shade-grown wrapper tobacco produced in the United States is grown in the Connecticut Valley, the remainder being grown in the Georgia-Florida district.

The shades are constructed of poles with wires stretched across to support a covering of cheesecloth. (Fig. 23.) Another type of shade used is a combination of lath and cheesecloth. The effort is to produce a 60 per cent shade to protect the plants from direct and intense sunlight, conserve moisture, minimize the whipping of leaves

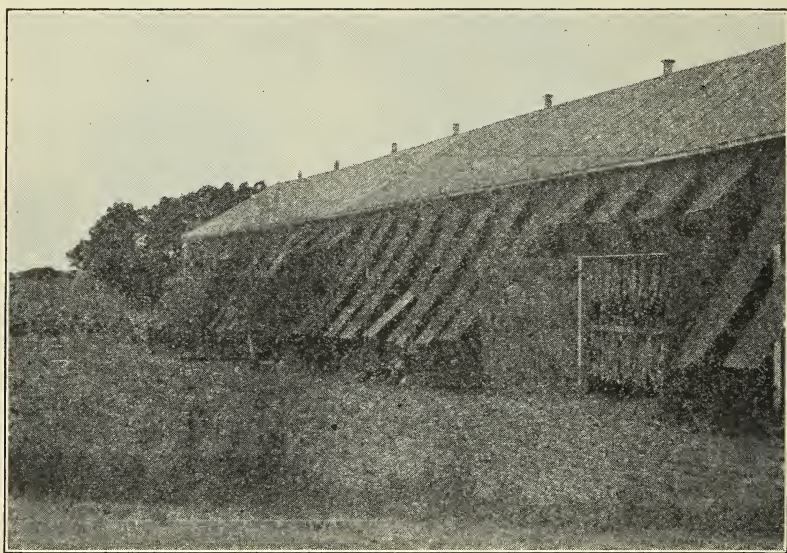


FIGURE 22.—A tobacco-curing barn in the Connecticut Valley. Note the method of regulating the circulation of air

with its attendant damage, and to exclude insects. From 7,000 to 9,000 acres of tobacco are grown under shade each year in the Connecticut Valley, and from 3,000 to 4,000 acres in Georgia and Florida. In the latter district lath shade is common. (Fig. 28.)

All shade-grown tobacco is primed, which means the leaves are removed in series from the live plant. Generally four primings are taken. The first priming starts near the bottom of the stalk, the second priming next higher, and so on. The separate leaves are strung face to face, pierced through the end of the stem, and the string is attached to both ends of a lath for hanging in the ventilated shed for curing.

Connecticut shade-grown tobacco, U. S. type 61, after grading as to color, size, and injury, is tied into hands (consisting of approximately uniform numbers of leaves of one grade and size) by means of raffia or a manufactured narrow tape which sometimes is printed with the name of the grower. A quantity of hands of one grade and size,

about 180 pounds, and sufficient to make a bale, is generally placed in a bulk for sweating. These bulks are made in a room in which the temperature and humidity are maintained at a uniform point. The tobacco heats, and this heating is closely watched. The bulks are rebulked frequently to keep down the temperature of the tobacco. When sufficiently and uniformly sweated the bale is packed. The packing consists of placing the hands (in fan shape) carefully and uniformly alongside and overlapping each other and with butts to the outside, in a rectangular and collapsible box which is usually 32 inches square. The tobacco is pressed to form a bale about 12 to 14 inches deep, and the box is removed.

The bale is usually inclosed in tough waxy paper for protection and to retain moisture. Outside of this is sewn a covering made from



FIGURE 23.—Typical view of tobacco tents in the Connecticut Valley. From 7,000 to 9,000 acres of tobacco are grown annually under shade in New England, and from 3,000 to 4,000 acres in Florida and Georgia

tobacco mats, an imported woven article made in the Orient from uniform narrow strips of native grass. This matting is stenciled with a number and the grade of tobacco in the bale. Some companies add the year of growth. The bales are then placed in tiers for storage. When they are to be shipped, some are covered with a heavy burlap and some are packed individually in lightweight wooden boxes weighing about 45 pounds each. Cartons have been used instead of boxes, but some carriers refuse to accept such packages because of the weight and value of the contents—frequently around \$5 per pound net.

In addition to the wrapper tobacco grown in the United States, large quantities produced on the islands of Sumatra and Java are imported from the Netherlands annually by cigar manufacturers and dealers. (Table 29.)

PENNSYLVANIA AND NEW YORK

Pennsylvania⁸ is the most important State in the production of cigar-filler tobacco, and in addition raises a small quantity of Havana Seed, type 53, which is a binder type.

The filler district centers in Lancaster County, which has the distinction of being the most important county in the United States in tobacco production. The tobacco grown is Seedleaf, type 41, considerable quantities of which are grown also in the counties of York, Chester, Lebanon, Berks, and Dauphin. The cigar-manufacturing industry is very important in this area, large factories being located at York and Red Lion. Philadelphia

also is an important cigar-manufacturing center. Modern production methods are used and most of the modern cigar factories are equipped with machinery that is more or less automatic.

In years that Pennsylvania tobacco, U. S. type 41, attains a good leafy growth, the longer sizes known in the trade as "tops" are used for binder purposes.

Binder tobacco known as New York and Pennsylvania Havana Seed, type 53 (figs. 24 and 25), is produced in Clinton, Tioga, Lycoming, and Bradford Counties, Pa., and scatteringly in Chemung, Steuben, and Onondago Counties, N. Y. Oswego, Cayuga, Wayne, and

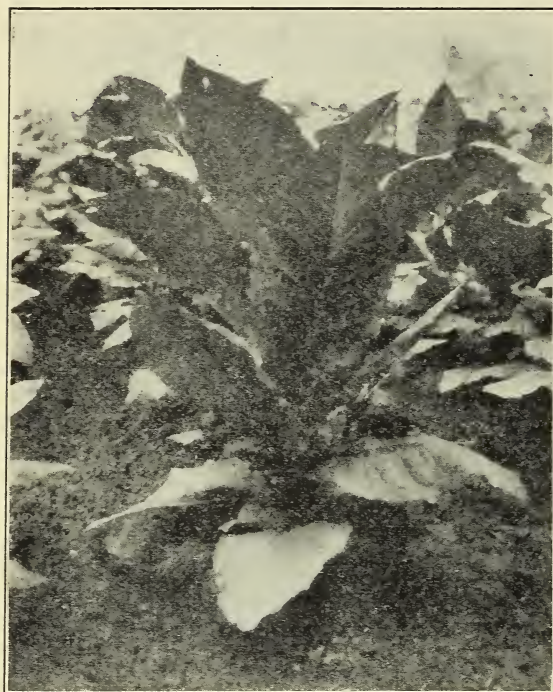


FIGURE 24.—A plant of Pennsylvania Havana Seed, type 53, very similar to Connecticut Valley Havana Seed, type 52. (Compare with Broadleaf, fig. 21)

Tioga Counties in New York formerly produced tobacco in appreciable quantities, but the acreage has been greatly reduced by competition with other crops.

The distinctions between type 53 and type 52, Connecticut Valley Havana Seed, arise mainly from differences in the soils of the two areas. Type 53 tobacco frequently loses its identity by being packed in the same manner as and together with Connecticut Valley Havana Seed, U. S. type 52. Otherwise, it is packed in standard tobacco cases and is graded as to utility, color (light or dark), and size (length).

Onondago County produces a heavier type of tobacco which is used principally for cigar-filler purposes.

⁸ For a more complete discussion than is contained herein see Farmer's Bulletin 1580 (12).

A third type grown in Pennsylvania which is of some interest, though not included in the official classification (15) of American types, is *Nicotiana rustica*, or Rustica as it is commonly known. Tobacco used for personal consumption belongs to the species *N. tabacum*. Rustica is a different species and is produced to a very limited extent for use in the manufacture of nicotine sulphate, insecticides, etc. Figure 26 shows the characteristic appearance of the plant.

MIAMI VALLEY

The cigar-tobacco district of Ohio lies in the valley of the Miami River and comprises all or parts of the counties of Darke, Preble, Butler, Miami, Montgomery, and Warren. A small quantity, 100 acres or more, is grown in the adjoining county of Randolph, Ind. As in other cigar-producing areas, the country-sales method prevails, buyers inspecting the tobacco at the farms and agreeing on a price.



FIGURE 25.—A field of Pennsylvania Havana Seed, showing the characteristically hilly country in which it is grown. Soils suitable for this type are found only in small isolated areas

The principal buying interests are located at Dayton, although buyers are located at several of the smaller cities and towns in the district. The tobacco produced is of three types; type 42, Gebhart; type 43, variously known as Spanish, Zimmer Spanish, or Zimmer; and type 44, Dutch, or Little Dutch.

All are used primarily for cigar fillers. Little Dutch is used extensively in the manufacture of stogies. These tobaccos are graded into wrapper B's (heavy bodied) and filler B's (flimsier). Both grades are used for cigar-filler purposes. They are also sized (table sorted or hand sized), and packed in standard tobacco cases containing tobacco of uniform grade and size. They are sold "natural sweat," or dipped and "resweat," according to preference or requirements of the cigar manufacturer.

Statistics of production and value of the three types separately are not available. In the past Gebhart has represented approxi-

mately one-third of the total production in the Miami Valley, Spanish from 45 to 60 per cent, and Little Dutch from 10 to 20 per cent.

WISCONSIN

Two well-defined districts comprise the tobacco-growing areas in Wisconsin, known as the southern and northern districts, in which are produced binder types 54 and 55, respectively.



FIGURE 26.—*Nicotiana rustica*, produced in small amounts in Pennsylvania and elsewhere for the manufacture of nicotine sulphate, insect powders, etc. The plants are relatively small, and the leaves are rough and crinkled. The nicotine content is considerably higher than that of *N. tabacum*.

Type 54, southern Wisconsin, is produced principally in Dane, Rock, and Columbia Counties, named in the order of their importance in tobacco production.

Type 55, northern Wisconsin, is produced principally in Vernon, Crawford, and Richland Counties. Small quantities are grown in a few other counties.

The southern and northern districts are some distance apart and are separated by the Wisconsin River. The differences between types 54 and 55 result from variations in soil, and possibly from differences in soil drainage and climate. The northern district, except for the small Minnesota acreage, lies wholly in very hilly, eroded counties of the western upland portion of Wisconsin.

where silt loams predominate among the soil types. It is a part of the driftless or unglaciated area. The soils that appear to be most important in tobacco production are loams and silt loams derived from a sheet of loess or wind-blown soil that once covered this portion of the State.

The southern district, on the other hand, lies mainly in a glaciated, less hilly section, and although certain soil series are common to both districts, the differences are great enough to differentiate the tobacco produced in them.

The northern district produces thinner and finer binders as a rule than the southern, and the tobacco runs less to stemming grades.

Janesville, Edgerton, Stoughton, and Viroqua are important centers of tobacco trade in Wisconsin.

MINNESOTA

Tobacco culture is a relatively recent development in Minnesota. Type 55, the same as that in the northern district of Wisconsin, is grown. The annual production is small but increasing, amounting to 1,800,000 pounds in 1929, 2,875,000 pounds in 1930, and 2,185,000 pounds in 1931. The acreage is scattered, but a considerable portion of it is located near St. Cloud. A field of Minnesota tobacco is shown in Figure 27.

FLORIDA AND GEORGIA

A small cigar-tobacco growing district is found in the western part of Florida, around Quincy, and the adjoining portion of Georgia.



FIGURE 27.—A field of northern Wisconsin tobacco, type 55, in Minnesota. Tobacco growing in Minnesota is a recent development

Most of the acreage lies in Florida. Two types are produced, sun Sumatra, type 45, and shade-grown, type 62.

Sun Sumatra is an open-field type, raised mostly under contract, and is strictly a filler type.

Shade-grown, type 62, is produced under cheesecloth or lath shade (fig. 28), or a combination of the two. The production of shade tobacco in this district is complicated by the prevalence of a disease known as black shank, with which the soil becomes infected, necessitating the frequent removal of shade to new fields.

Because of the great expense of constructing shade, the production of shade-grown tobacco in Florida and Georgia is largely a corporate or company enterprise.

U. S. type 62 is graded for color, size, and injury, and is packed in bales like those of U. S. type 61.

STATISTICS OF CIGAR TOBACCO

Tables 15 to 18 present statistics of (1) acreage, production, and value, and (2) supply and disappearance, of cigar tobacco arranged



FIGURE 28.—A typical lath shade in the Florida-Georgia wrapper district. Both lath and cloth shades are found in this district. (Compare with fig. 23)

by types. In Table 19 are compiled the export figures of cigar tobacco from the United States to the principal importing countries.

TABLE 15.—*Cigar-filler tobacco: Acreage, production, and price, 1909-1931*

PENNSYLVANIA SEEDLEAF, TYPE 41

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
	<i>Acres</i>	<i>Pounds</i>	<i>1,000 pounds</i>	<i>Cents</i>	<i>1,000 dollars</i>	<i>Dollars</i>
1919.....	42,500	1,311	55,718	18.0	10,001	235.32
1920.....	42,400	1,463	62,031	11.8	7,332	172.92
1921.....	41,900	1,403	57,944	14.3	8,302	201.02
1922.....	42,200	1,290	54,438	15.8	8,617	204.19
1923.....	44,100	1,240	54,684	18.0	9,854	223.45
1924.....	45,000	1,262	56,790	15.6	8,848	196.62
1925.....	39,900	1,413	56,379	10.0	5,666	142.01
1926.....	33,200	1,321	43,857	10.3	4,505	135.69
1927.....	34,500	1,351	46,610	12.9	6,027	174.70
1928.....	37,500	1,351	50,662	13.9	7,059	188.24
1929.....	40,100	1,267	50,805	12.0	6,084	151.72
1930.....	40,900	964	39,428	6.4	2,504	61.22
1931 ¹	40,500	1,431	57,955	10.0	5,785	142.84

MIAMI VALLEY, TYPES 42-44

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
1909.....	71,581	763	54,587	9.5	5,186	72.45
1910.....	70,000	800	56,000	8.2	4,592	65.60
1911.....	60,000	930	55,800	7.8	4,352	72.53
1912.....	54,000	990	53,460	8.0	4,277	79.20
1913.....	51,300	730	37,449	11.0	4,119	80.29
1914.....	56,400	960	54,144	9.1	4,927	87.36
1915.....	60,300	900	54,270	9.0	4,884	81.00
1916.....	60,000	970	58,200	12.0	6,984	116.40
1917.....	63,600	970	61,692	24.0	14,806	232.80
1918.....	53,000	1,000	53,000	16.0	8,480	160.00
1919.....	47,100	828	38,988	20.0	7,797	165.54
1920.....	41,100	939	38,589	16.0	6,174	150.22
1921.....	29,900	944	28,239	11.0	3,106	103.88
1922.....	29,300	909	26,639	14.0	3,726	127.17

¹ Estimated December, 1931.

TABLE 15.—*Cigar-filler tobacco: Acreage, production, and price, 1909-1931—Con.*

MIAMI VALLEY, TYPES 42-44—Continued

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
	<i>Acres</i>	<i>Pounds</i>	<i>1,000 pounds</i>	<i>Cents</i>	<i>1,000 dollars</i>	<i>Dollars</i>
1923.....	28,000	924	25,860	13.0	3,364	120.14
1924.....	41,500	607	25,195	13.0	3,275	78.92
1925.....	34,900	976	34,072	11.4	3,883	111.26
1926.....	27,000	808	21,818	8.5	1,854	68.67
1927.....	16,500	740	12,216	15.6	1,904	115.39
1928.....	22,600	691	15,620	17.5	2,732	120.88
1929.....	28,500	725	20,666	13.8	2,851	100.04
1930.....	30,500	1,060	32,347	10.1	3,265	107.05
1931 ¹	32,600	1,007	32,844	7.5	2,465	75.61

GEORGIA AND FLORIDA SUN-GROWN, TYPE 45

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
	<i>Acres</i>	<i>Pounds</i>	<i>1,000 pounds</i>	<i>Cents</i>	<i>1,000 dollars</i>	<i>Dollars</i>
1919.....	2,200	917	2,017	20.4	412	187.27
1920.....	2,000	961	1,922	19.0	366	183.00
1921.....	2,300	826	1,900	9.9	189	82.17
1922.....	1,100	1,000	1,100	12.0	132	120.00
1923.....	1,900	918	1,745	21.0	366	192.63
1924.....	1,800	894	1,610	20.1	323	179.44
1925.....	1,400	929	1,300	20.0	260	185.71
1926.....	1,400	1,086	1,520	20.0	304	217.14
1927.....	1,600	1,127	1,803	20.0	361	225.62
1928.....	1,500	1,057	1,586	20.0	317	211.33
1929.....	1,600	1,162	1,860	20.0	372	232.50
1930.....	1,300	1,151	1,496	20.0	299	230.00
1931 ¹	1,200	882	1,058	15.0	158	131.67

¹ Estimated December, 1931.

Compiled from records of Division of Crop and Livestock estimates.

TABLE 16.—*Cigar-binder tobacco: Acreage, production, and price, 1909-1931*

NEW ENGLAND BROADLEAF, TYPE 51

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
	<i>Acres</i>	<i>Pounds</i>	<i>1,000 pounds</i>	<i>Cents</i>	<i>1,000 dollars</i>	<i>Dollars</i>
1919.....	17,600	1,600	28,160	44.8	12,621	717.10
1920.....	18,800	1,464	27,530	39.2	10,797	574.31
1921.....	18,500	1,545	28,577	19.9	5,686	307.35
1922.....	13,200	1,120	14,784	30.0	4,430	335.61
1923.....	13,500	1,510	20,391	35.0	7,145	529.26
1924.....	15,300	1,497	22,909	20.0	4,582	299.48
1925.....	18,900	1,401	26,485	18.9	5,017	265.45
1926.....	13,500	1,403	18,942	26.0	4,930	365.19
1927.....	13,000	1,309	17,023	21.0	3,567	274.38
1928.....	12,300	1,312	16,134	21.0	3,390	275.61
1929.....	8,300	1,453	12,057	27.4	3,308	398.55
1930.....	12,400	1,495	18,540	25.1	4,649	374.92
1931 ¹	13,200	1,410	18,613	17.1	3,175	240.53

NEW ENGLAND HAVANA SEED, TYPE 52 (a)

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
	<i>Acres</i>	<i>Pounds</i>	<i>1,000 pounds</i>	<i>Cents</i>	<i>1,000 dollars</i>	<i>Dollars</i>
1919.....	13,400	1,585	21,245	31.0	6,583	491.27
1920.....	13,100	1,460	19,129	34.9	6,682	510.08
1921.....	12,700	1,500	19,050	21.9	4,180	329.13
1922.....	14,800	1,125	16,650	29.3	4,871	329.12
1923.....	15,600	1,467	22,888	35.0	8,012	513.59
1924.....	15,900	1,393	22,155	19.0	4,214	265.03
1925.....	15,700	1,313	20,608	16.0	3,299	210.13
1926.....	10,400	1,500	15,597	26.9	4,193	403.17
1927.....	11,400	1,320	15,052	23.5	3,543	310.79
1928.....	12,600	1,312	16,525	24.0	3,961	314.37
1929.....	11,800	1,509	17,807	31.1	5,535	469.07
1930.....	11,900	1,503	17,885	21.9	3,917	329.16
1931 ¹	11,100	1,367	15,173	15.0	2,274	204.86

¹ Estimated December, 1931.

TABLE 16.—*Cigar-binder tobacco: Acreage, production, and price, 1909-1931—Con.*

NEW ENGLAND PRIMED HAVANA SEED, TYPE 52 (b)

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
	<i>Acres</i>	<i>Pounds</i>	<i>1,000 pounds</i>	<i>Cents</i>	<i>1,000 dollars</i>	<i>Dollars</i>
1919.....	1,700	1,350	2,635	38.5	1,015	597.06
1920.....	2,000	1,374	2,748	46.7	1,284	642.00
1921.....	2,400	1,495	3,588	28.6	1,025	427.08
1922.....	1,100	1,249	1,374	30.0	412	374.55
1923.....	800	1,630	1,304	42.0	548	685.00
1924.....	700	1,880	966	23.1	223	318.57
1925.....	400	1,545	618	21.0	130	325.00
1926.....	400	1,542	617	34.8	215	537.50
1927.....	500	1,460	730	30.0	219	438.00
1928.....	500	1,420	710	30.0	213	426.00
1929.....	200	1,575	315	34.9	110	550.00
1930.....						
1931 ¹						

PENNSYLVANIA HAVANA SEED, TYPE 53

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
1919.....	500	1,224	612	22.5	138	276.00
1920.....	600	1,248	749	27.0	202	336.67
1921.....	700	1,223	856	19.3	165	235.71
1922.....	800	1,290	1,032	25.0	258	322.50
1923.....	900	1,240	1,116	22.0	246	273.33
1924.....	1,000	1,170	1,170	21.5	252	252.00
1925.....	1,100	1,301	1,431	20.1	288	261.82
1926.....	800	1,279	1,023	20.2	207	258.75
1927.....	500	1,280	640	18.0	115	230.00
1928.....	500	1,276	638	19.3	123	246.00
1929.....	400	1,068	427	15.0	64	160.00
1930.....	400	1,065	426	11.0	47	117.50
1931 ¹	400	1,330	532	12.0	64	160.00

NEW YORK HAVANA SEED, TYPE 53

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
1909.....	4,100	1,304	5,345	8.0	428	104.39
1910.....	4,000	1,250	5,000	8.5	425	106.25
1911.....	3,800	1,330	5,054	10.4	526	138.42
1912.....	4,000	1,300	5,200	12.6	655	163.75
1913.....	4,300	1,020	4,386	12.2	535	124.42
1914.....	4,600	1,300	5,980	12.0	718	156.09
1915.....	4,400	1,200	5,280	9.5	502	114.09
1916.....	3,700	1,230	4,551	13.0	592	160.00
1917.....	2,500	1,250	3,125	22.0	688	275.20
1918.....	3,000	1,250	3,750	18.0	675	225.00
1919.....	2,700	1,285	3,470	22.5	781	289.26
1920.....	2,400	1,200	2,880	27.0	778	324.17
1921.....	2,300	1,250	2,875	19.3	555	241.80
1922.....	2,200	1,050	2,310	25.0	578	262.73
1923.....	2,100	1,125	2,362	21.0	496	236.19
1924.....	2,000	1,140	2,280	22.0	502	251.00
1925.....	1,600	1,100	1,760	20.0	352	220.00
1926.....	1,200	1,200	1,440	19.0	274	228.33
1927.....	1,000	1,225	1,225	18.0	221	221.00
1928.....	800	1,175	940	19.3	181	226.25
1929.....	900	1,265	1,012	15.5	157	174.44
1930.....	900	950	855	12.0	103	114.44
1931 ¹	900	1,300	1,170	11.5	135	150.00

SOUTHERN WISCONSIN, TYPE 54

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
1919.....	28,200	1,289	36,345	20.0	7,286	258.37
1920.....	29,800	1,255	37,397	12.6	4,672	156.78
1921.....	28,600	1,325	37,907	6.7	2,542	88.88
1922.....	23,500	1,165	27,370	13.0	3,551	151.11
1923.....	25,400	1,154	29,311	8.6	2,513	98.94
1924.....	21,800	940	20,492	9.6	1,961	89.95
1925.....	19,000	1,392	26,450	11.6	3,078	162.00
1926.....	17,500	1,196	20,930	12.8	2,689	153.66
1927.....	18,800	1,051	19,750	14.0	2,757	146.65
1928.....	22,200	1,353	30,044	13.7	4,116	185.41
1929.....	23,500	1,264	29,705	13.4	3,979	169.32
1930.....	23,200	1,256	29,130	9.8	2,855	123.06
1931 ¹	23,100	1,221	28,200	8.0	2,256	97.66

¹ Estimated December, 1931.

TABLE 16.—*Cigar-binder tobacco: Acreage, production, and price, 1909-1931—Con.*
NORTHERN WISCONSIN, TYPE 55

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
	<i>Acres</i>	<i>Pounds</i>	<i>1,000 pounds</i>	<i>Cents</i>	<i>1,000 dollars</i>	<i>Dollars</i>
1919	16,800	1,225	20,580	26.0	5,351	318.51
1920	17,200	1,236	21,259	17.2	3,657	212.62
1921	17,400	1,208	21,019	12.3	2,585	148.56
1922	14,500	1,100	15,950	14.4	2,297	158.41
1923	17,600	1,005	17,688	12.1	2,140	121.59
1924	16,900	942	15,928	14.1	2,238	132.43
1925	13,700	1,345	18,425	13.8	2,544	185.69
1926	11,900	1,077	12,820	15.4	1,971	165.63
1927	12,900	1,097	14,155	18.9	2,675	207.36
1928	15,800	1,219	19,256	15.9	3,069	194.24
1929	16,500	1,225	20,220	17.3	3,501	212.18
1930	22,100	1,205	26,635	10.3	2,736	123.80
1931 ¹	18,800	1,127	21,185	8.1	1,706	90.74

ROUND TIP²

1920	100	1,500	150	40.0	60	600.00
1921	200	1,500	300	25.0	75	375.00
1922	300	1,333	400	40.0	160	533.33
1923	600	1,613	963	42.8	414	690.00
1924	100	1,400	140	22.0	31	310.00

¹ Estimated December, 1931.² A hybrid type related to Broadleaf. No longer grown.

Compiled from records of the Division of Crop and Livestock Estimates.

TABLE 17.—*Cigar-wrapper tobacco: Acreage, production, and price, 1919-1931*

NEW ENGLAND SHADE-GROWN, TYPE 61

Year	Acreage	Yield per acre	Production	Price per pound	Farm value	Value per acre
	<i>Acres</i>	<i>Pounds</i>	<i>1,000 pounds</i>	<i>Cents</i>	<i>1,000 dollars</i>	<i>Dollars</i>
1919	4,900	1,178	5,772	105.0	6,060	1,236.73
1920	6,000	899	5,393	100.0	5,393	898.83
1921	7,400	1,019	7,543	95.0	7,166	968.38
1922	8,000	849	6,792	90.0	6,113	764.12
1923	8,500	1,134	9,639	100.0	9,639	1,134.00
1924	6,900	1,070	7,385	85.0	6,277	909.71
1925	4,600	1,050	4,830	100.0	4,830	1,050.00
1926	5,300	1,004	5,322	97.8	5,204	981.89
1927	7,100	899	6,356	105.0	6,705	944.37
1928	8,000	865	6,923	100.0	6,923	865.38
1929	8,700	1,174	10,215	95.0	9,704	1,115.40
1930	7,400	1,042	7,712	90.0	6,941	937.97
1931 ¹	5,800	982	5,693	80.0	4,554	785.17

GEORGIA AND FLORIDA SHADE-GROWN, TYPE 62

1919	3,600	1,114	4,012	65.0	2,608	724.44
1920	3,400	1,118	3,800	60.0	2,280	670.59
1921	3,100	1,011	3,135	60.0	1,881	606.77
1922	3,400	1,092	3,714	50.4	1,872	550.59
1923	3,600	1,183	4,260	58.0	2,471	686.39
1924	3,000	1,019	3,058	60.0	1,835	611.67
1925	1,900	1,100	2,090	65.0	1,358	714.74
1926	2,300	1,124	2,586	65.0	1,681	730.87
1927	2,800	1,213	3,396	65.0	2,208	788.57
1928	3,500	1,114	3,900	55.0	2,145	612.86
1929	3,700	1,182	4,373	55.0	2,405	650.00
1930	3,400	1,115	3,790	60.0	2,274	668.82
1931 ¹	2,900	1,069	3,101	50.1	1,554	535.86

¹ Estimated December, 1931.

Compiled from records of the Division of Crop and Livestock Estimates.

TABLE 18.—*Cigar tobacco: Production, stocks, and disappearance, 1912–1931*

[In million pounds; i. e., 000,000 omitted]

PENNSYLVANIA SEEDLEAF, TYPE 41

Year	Production	Stocks on hand Oct. 1	Total supply	Disappearance, year beginning Oct. 1	Year	Production	Stocks on hand Oct. 1	Total supply	Disappearance, year beginning Oct. 1
1919-----	55.7	91.7	147.4	59.6	1926-----	43.9	105.3	149.2	65.1
1920-----	62.0	87.8	149.8	66.7	1927-----	46.6	84.1	130.7	46.1
1921-----	57.9	83.1	141.0	50.7	1928-----	50.7	84.6	135.3	52.0
1922-----	54.4	90.3	144.7	45.6	1929-----	50.8	83.3	134.1	54.5
1923-----	54.7	99.1	153.8	44.1	1930-----	39.4	79.6	119.0	44.8
1924-----	56.8	109.7	166.5	53.1	1931-----	² 58.0	74.2	132.2	24.6
1925-----	56.4	113.4	169.8	64.5					

MIAMI VALLEY, TYPES 42-44

1912-----	53.5	89.6	143.1	59.0	1922-----	26.6	74.0	100.6	26.5
1913-----	37.4	84.1	121.5	53.0	1923-----	25.9	74.1	100.0	26.3
1914-----	54.1	68.5	122.6	48.3	1924-----	25.2	73.7	98.9	42.5
1915-----	54.3	74.3	128.6	68.7	1925-----	34.1	56.4	90.5	18.8
1916-----	58.2	59.9	118.1	53.7	1926-----	21.8	71.7	93.5	36.7
1917-----	61.7	64.4	126.1	59.4	1927-----	12.2	56.8	69.0	22.1
1918-----	53.0	66.7	119.7	50.4	1928-----	15.6	46.9	62.5	22.6
1919-----	39.0	69.3	108.3	28.5	1929-----	20.7	39.9	60.6	24.2
1920-----	38.6	79.8	118.4	40.1	1930-----	32.3	36.4	68.7	14.5
1921-----	28.2	78.3	106.5	32.5	1931-----	² 32.8	54.2	87.0	29.2

GEORGIA AND FLORIDA SUN AND SHADE GROWN, TYPES 45 AND 62

1912-----	3.8	7.7	11.5	3.1	1922-----	4.8	8.1	12.9	5.6
1913-----	5.8	8.4	14.2	3.7	1923-----	6.0	7.3	13.3	6.7
1914-----	6.2	10.5	16.7	8.2	1924-----	4.7	6.6	11.3	6.0
1915-----	5.0	8.5	13.5	5.8	1925-----	3.4	5.3	8.7	3.7
1916-----	4.6	7.7	12.3	5.9	1926-----	4.1	5.0	9.1	4.2
1917-----	5.0	6.4	11.4	4.7	1927-----	5.2	4.9	10.1	3.0
1918-----	5.8	6.7	12.5	6.5	1928-----	5.5	7.1	12.6	5.7
1919-----	6.0	6.0	12.0	5.4	1929-----	6.2	6.9	13.1	4.8
1920-----	5.7	6.6	12.3	4.0	1930-----	5.3	8.3	13.6	6.0
1921-----	5.0	8.3	13.3	5.2	1931-----	² 4.2	7.6	11.8	4.6

NEW ENGLAND BROADLEAF, TYPE 51

1919-----	28.2	24.1	52.3	24.8	1926-----	18.9	43.8	62.7	25.0
1920-----	27.5	27.5	55.0	25.0	1927-----	17.0	37.7	54.7	23.3
1921-----	28.6	30.0	58.6	26.8	1928-----	16.1	31.4	47.5	16.5
1922-----	14.8	31.8	46.6	12.9	1929-----	12.1	31.0	43.1	18.3
1923-----	20.4	33.7	54.1	14.3	1930-----	18.5	24.8	43.3	13.3
1924-----	22.9	39.8	62.7	18.0	1931-----	² 18.6	30.0	48.6	12.0
1925-----	26.5	44.7	71.2	27.4					

NEW ENGLAND HAVANA SEED, TYPE 52

Year	Primed Havana Seed	Havana Seed	Stocks on hand Oct. 1	Total supply	Disappearance, year beginning Oct. 1	Year	Primed Havana Seed	Havana Seed	Stocks on hand Oct. 1	Total supply	Disappearance, year beginning Oct. 1
1919-----	2.6	21.2	23.8	47.6	19.3	1926-----	0.6	15.6	48.5	64.7	22.3
1920-----	2.7	19.1	23.3	50.1	24.1	1927-----	.7	15.1	42.4	58.2	21.3
1921-----	3.6	19.0	26.0	48.6	13.8	1928-----	.7	16.5	36.9	54.1	22.7
1922-----	1.4	16.6	34.8	52.8	12.8	1929-----	.3	17.8	31.4	49.5	16.6
1923-----	1.3	22.9	40.0	64.2	19.4	1930-----	.0	17.9	32.9	50.8	17.4
1924-----	1.0	22.2	44.8	68.0	19.1	1931-----	² 0.0	² 15.2	33.4	48.6	11.5
1925-----	.6	20.6	48.9	70.1	21.6						

¹ Previous to 1929 stocks reports issued by the Bureau of the Census included "Pennsylvania" and "New York." Pennsylvania is believed to refer entirely to type 41. New York is believed to include type 53 produced in that State and that produced over the line in Pennsylvania.

² Estimated December, 1931.

TABLE 18.—*Cigar tobacco: Production, stocks, and disappearance, 1912–1931—Con.*

NEW YORK AND PENNSYLVANIA HAVANA SEED, TYPE 53

Year	Production	Stocks on hand Oct. 1	Total supply	Disappearance, year beginning Oct. 1	Year	Production	Stocks on hand Oct. 1	Total supply	Disappearance, year beginning Oct. 1
1919-----	4.1	2.3	6.4	3.9	1926-----	2.5	4.6	7.1	3.9
1920-----	3.6	2.5	6.1	2.6	1927-----	1.9	3.2	5.1	2.8
1921-----	3.7	3.5	7.2	2.7	1928-----	1.6	2.3	3.9	1.7
1922-----	3.3	4.5	7.8	4.5	1929-----	1.4	2.2	3.6	1.4
1923-----	3.5	3.3	6.8	3.6	1930-----	1.3	2.2	3.5	.5
1924-----	3.4	3.2	6.6	2.2	1931-----	² 1.7	3.0	4.7	.8
1925-----	3.2	4.4	7.6	3.0					

WISCONSIN, TYPES 54–55

1912-----	54.4	71.2	125.6	53.5	1922-----	43.3	120.6	163.9	46.7
1913-----	50.7	72.1	122.8	51.5	1923-----	47.0	117.2	164.2	54.2
1914-----	53.8	71.3	125.1	46.2	1924-----	36.4	110.0	146.4	48.2
1915-----	36.9	78.9	115.8	56.0	1925-----	44.9	98.2	143.1	49.9
1916-----	55.8	59.8	115.6	62.5	1926-----	33.8	93.2	127.0	43.9
1917-----	44.5	53.1	97.6	46.8	1927-----	33.9	83.1	117.0	44.5
1918-----	65.2	50.8	116.0	47.3	1928-----	49.3	72.5	121.8	35.1
1919-----	56.9	68.7	125.6	40.3	1929-----	49.9	86.7	136.6	51.3
1920-----	58.7	85.3	144.0	50.5	1930-----	55.8	85.3	141.1	35.9
1921-----	58.9	93.5	152.4	31.8	1931-----	² 49.4	105.2	154.6	33.3

¹ Previous to 1929 stocks reports issued by the Bureau of the Census included "Pennsylvania" and "New York." Pennsylvania is believed to refer entirely to type 41. New York is believed to include type 53 produced in that State and that produced over the line in Pennsylvania.

² Estimated December, 1931.

Production data compiled from records of the Division of Crop and Livestock Estimates. Stocks compiled from reports of the Bureau of the Census prior to Apr. 1, 1929; since Apr. 1, 1929, compiled from the tobacco stocks report of the tobacco section.

TABLE 19.—*Exports of cigar tobacco from the United States to principal importing countries, 1923–1930*

Importing country	Calendar year								
	1923	1924	1925	1926	1927	1928	1929	1930	1931
	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>
Netherlands-----	3	1,006	55	101	68	14	86	94	169
Canada-----	247	193	331	142	203	310	333	292	239
Philippine Islands-----	6	126	309	263	217	242	321	188	230
France-----	(¹)	(¹)	0	0	0	0	3,465	3,384	2,997
Other countries-----	133	139	188	113	43	96	204	195	159
Total-----	389	1,464	883	619	531	662	4,409	4,153	3,794
	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>
Netherlands-----	0.7	68.7	6.3	16.3	12.8	2.2	1.9	2.3	4.4
Canada-----	63.5	13.2	37.5	22.9	38.1	46.9	7.6	7.0	6.3
Philippine Islands-----	1.5	8.6	35.0	42.6	40.8	36.5	7.3	4.5	6.1
France-----	(¹)	(¹)	0.0	0.0	0.0	0.0	78.6	81.5	79.0
Other countries-----	34.3	9.5	21.2	18.2	8.3	14.4	4.6	4.7	4.2

¹ Less than 100 pounds which is less than one-tenth of 1 per cent.

Compiled from Foreign Commerce and Navigation of the United States, 1923–1930, and official records of the Bureau of Foreign and Domestic Commerce, 1931.

THE MARKET OUTLETS FOR TOBACCO

A brief survey of the various forms in which tobacco is consumed will aid in understanding the major changes in tobacco production that have occurred in the past or are now in progress.

The annual production of tobacco products in the United States from 1880 to 1930 is shown in Table 20. Although there is some

export and import trade in these products, the volume in proportion to the total is so small that these figures are approximately indicative of consumption.

TABLE 20.—*Tobacco, manufactured: Cigars, cigarettes, chewing, smoking, and snuff in the United States, 1880–1930*

Year	Cigars weighing—		Cigarettes weighing—		Chewing				Smoking	Snuff	Total chewing, smoking, and snuff
	More than 3 pounds per 1,000 ¹	Not more than 3 pounds per 1,000	More than 3 pounds per 1,000 ²	Not more than 3 pounds per 1,000	Plug	Twist ³	Fine-cut	Total			
	Millions	Millions	Millions	Millions	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds	Million pounds
1880	2,509.7			532.7	89.8		17.3	107.1	35.3	4.0	146.4
1881	2,805.8			594.6	108.3		18.9	127.2	40.8	4.5	172.5
1882	3,117.9			598.8	96.0		15.8	111.8	42.1	5.0	158.9
1883	3,231.8			844.0	124.6		16.0	140.6	47.7	5.6	193.9
1884	3,373.0			920.3	104.4		16.6	121.0	45.2	6.1	172.3
1885	3,293.7			1,079.5	130.8		18.1	148.9	51.7	6.5	207.1
1886	3,462.0			1,607.3	131.2		17.0	148.2	55.2	6.6	210.0
1887	3,661.6			1,865.3	140.0		17.7	157.7	60.5	8.2	226.4
1888	3,668.2			2,211.9	130.6		14.5	145.1	58.8	5.5	209.4
1889	3,787.2			2,413.3	156.6		16.5	173.1	64.1	9.0	246.2
1890	4,228.5			2,505.2	156.0		17.6	173.6	69.8	9.5	252.9
1891	4,422.0			3,137.3	166.2		17.0	183.2	76.7	10.6	270.5
1892	4,674.7			3,282.0	171.1		16.2	187.3	75.1	11.4	273.8
1893	4,341.2			3,660.8	147.9		14.2	162.1	76.4	12.0	250.5
1894	4,163.6			3,620.7	160.0		13.7	173.7	83.3	11.6	268.6
1895	4,099.1			4,237.8	167.8		13.3	181.1	83.3	9.9	274.3
1896	4,048.5			4,967.4	153.4		11.8	165.2	83.5	12.7	261.4
1897	4,135.6	295.5		4,631.8	185.7		12.1	197.8	85.5	13.8	297.1
1898	4,458.8	456.8	1.7	4,384.0	160.9		11.4	172.3	89.2	13.6	275.1
1899	4,909.6	622.3	2.6	3,742.4	165.7		11.7	177.4	102.5	14.7	294.6
1900	5,565.7	610.9	4.6	3,254.1	173.9		11.5	185.4	101.5	13.8	300.7
1901	6,139.4	775.2	5.2	2,723.0	172.5		11.7	184.2	112.2	17.5	313.9
1902	6,231.7	676.1	10.1	2,961.2	185.7		12.1	197.8	131.1	18.7	347.6
1903	6,806.0	592.4	6.4	3,360.1	180.2	2.3	11.9	194.4	134.4	22.7	351.5
1904	6,640.5	736.2	7.1	3,426.9	163.4	8.8	12.1	184.3	149.2	20.2	353.7
1905	6,747.9	803.6	6.9	3,666.8	156.8	10.1	11.7	178.6	165.2	23.7	367.5
1906	7,147.5	989.8	10.7	4,501.3	165.1	11.7	12.7	189.5	175.7	26.1	391.3
1907	7,302.0	1,074.1	15.0	5,255.6	159.7	12.2	12.5	184.4	179.2	24.2	387.8
1908	6,488.9	1,072.5	17.7	5,742.8	164.7	14.5	12.1	191.3	192.2	24.0	407.5
1909	6,667.8	1,043.0	17.8	6,818.9	173.4	14.6	12.5	200.5	202.4	28.5	431.4
1910	6,810.1	1,118.1	19.4	8,644.3	174.3	14.6	12.9	201.8	214.1	31.4	447.3
1911	7,048.5	1,213.8	17.1	10,469.3	160.9	13.9	11.0	185.8	209.4	28.9	424.1
1912	7,044.3	1,055.2	16.6	13,167.1	160.3	15.5	11.0	186.8	217.3	31.4	435.5
1913	7,571.5	959.4	15.1	15,555.7	164.4	14.9	10.9	190.2	220.8	32.9	443.9
1914	7,174.2	1,074.7	13.9	16,855.6	156.5	16.0	10.9	183.4	226.9	30.6	440.9
1915	6,599.2	965.1	15.8	17,964.3	150.7	14.8	10.1	175.6	234.9	31.9	442.4
1916	7,042.1	890.5	22.2	25,290.3	165.6	16.0	10.9	192.5	239.7	34.0	466.2
1917	7,559.9	967.2	24.6	35,351.3	179.4	15.2	11.3	205.9	243.6	33.5	483.0
1918	7,053.5	847.5	23.4	46,656.9	174.7	17.5	9.8	202.0	257.9	37.2	497.1
1919	7,072.4	713.2	31.9	53,119.8	141.0	11.3	8.2	160.5	228.6	35.0	424.1
1920	8,096.8	633.2	28.0	47,430.1	138.5	11.8	8.7	159.0	219.3	34.3	412.6
1921	6,726.1	670.5	14.5	52,085.0	113.4	9.2	6.9	129.5	222.7	34.7	386.9
1922	6,722.4	632.9	17.5	55,763.0	120.2	10.9	6.9	138.0	243.4	38.1	419.5
1923	6,950.2	505.3	18.1	66,715.8	120.8	10.7	7.1	138.6	235.0	39.2	412.8
1924	6,597.7	530.7	16.1	72,709.0	111.5	9.9	6.8	128.2	247.0	39.0	414.2
1925	6,463.2	447.1	17.4	82,247.1	111.4	9.7	7.2	128.3	247.7	37.9	413.9
1926	6,498.6	412.3	13.2	92,097.0	109.8	9.2	7.0	126.0	246.4	38.2	410.6
1927	6,519.0	439.4	11.4	99,809.0	103.9	8.0	6.3	118.2	237.9	40.2	396.3
1928	6,373.2	415.5	10.4	108,705.5	100.6	8.9	5.2	114.7	231.1	40.5	386.3
1929	6,518.5	419.9	10.0	122,392.4	96.7	8.2	5.6	110.5	229.6	41.1	381.2
1930	5,893.9	383.1	7.4	123,802.2	86.3	7.6	5.1	99.0	232.0	40.8	371.8

¹ Prior to 1897, included in cigarettes weighing more than 3 pounds per 1,000.

² Prior to 1898, included in cigarettes weighing not more than 3 pounds per 1,000.

³ Prior to 1903, included in plug tobacco.

Compiled from annual reports of the Commissioner of Internal Revenue.

CIGARS

Cigars are classified in various ways. For purposes of taxation they are divided into two groups, those weighing more than 3 pounds per thousand, called large cigars, and those weighing not more than 3 pounds per thousand, called small cigars. Large cigars constitute roughly 95 per cent of the total number and 98 to 99 per cent of the total tobacco used in the manufacture of cigars.

Large cigars are further classified by the Bureau of Internal Revenue according to their intended retail price, as follows:

Class A, not more than 5 cents.

Class B, more than 5 cents, but not more than 8 cents.

Class C, more than 8 cents, but not more than 15 cents.

Class D, more than 15 cents, but not more than 20 cents.

Class E, more than 20 cents.

Prior to the World War the 5-cent cigar was the backbone of the cigar business. With the increased costs of material and labor incident to the war, retail prices of cigars rose, and 5-cent cigars dwindled in quality and volume of sales. Since that time an opposite trend has been in progress. Class A sales have risen sharply, whereas the sales of other classes have declined. The decline in class B has been especially rapid. The changes that have taken place since 1920 are shown in Table 21.

TABLE 21.—*Manufactures of large cigars, by classes, as indicated by the sales of internal revenue stamps, 1920-1931*

[In thousands; i. e., 000 omitted]

Calendar year	Class A		Class B		Class C		Class D		Class E		Total
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	
1920	1,792,701	22.5	2,500,972	31.4	3,481,573	43.8	136,083	1.7	55,693	0.7	7,967,022
1921	2,043,399	30.2	1,883,216	27.9	2,652,694	39.2	147,826	2.2	31,506	.5	6,758,631
1922	2,622,003	38.0	1,594,184	23.1	2,525,081	36.6	115,622	1.7	35,718	.5	6,892,609
1923	2,550,268	36.4	1,614,441	23.0	2,673,708	38.8	124,116	1.8	36,353	.5	6,998,887
1924	2,610,107	39.2	1,363,281	20.5	2,521,451	37.9	130,717	1.9	32,850	.5	6,658,407
1925	2,673,638	41.1	1,125,038	17.3	2,515,002	38.7	146,558	2.3	40,517	.6	6,500,752
1926	2,886,079	43.8	945,544	14.4	2,575,651	39.0	150,737	2.3	30,918	.5	6,588,928
1927	3,175,158	48.3	747,485	11.4	2,465,317	37.5	150,321	2.3	33,092	.5	6,571,373
1928	3,310,354	51.3	639,722	9.9	2,330,822	36.1	143,141	2.2	29,629	.5	6,453,668
1929	3,582,593	54.7	575,036	8.8	2,221,820	33.9	145,152	2.2	27,082	.4	6,551,683
1930	3,573,815	60.7	388,607	6.6	1,784,452	30.3	121,010	2.0	21,249	.4	5,889,132
1931	3,687,784	69.3	169,882	3.2	1,362,129	25.6	86,099	1.6	12,998	.2	5,318,893

Source: Bureau of Internal Revenue.

It should be understood in connection with Table 21 that the totals can not be regarded as exact and that they will not agree with the numbers of cigars manufactured as shown in Table 20. The figures shown in Table 21 are based on sales of internal revenue stamps during the calendar year, although some of the stamps may be used the following year. The stamps must be used in connection with cigars of domestic manufacture, if withdrawn for domestic sale, and cigars imported, or shipped in from insular possessions. They are not applied to cigars of domestic manufacture for export, most of which are manufactured in bond, nor are they applied to the personal allowance of 21 cigars per week to cigar-factory employees; exempted from taxation under the regulations

governing internal revenue. Figures in Table 20, on the other hand, exclude cigars imported or shipped in, and include those consumed by factory employees. They do not include cigars manufactured in bonded warehouses.

The operations of bonded warehouses are conducted under the supervision and control of the United States Bureau of Customs, under a provision of the tariff act of 1922 which permits the establishment of bonded warehouses for the manufacture of cigars and other tobacco products wholly from tobacco imported from any one country. If the cigars or other products so made are exported, they escape payment of internal revenue and the tobacco used is not subject to payment of import duties. If, on the other hand, any of the cigars, etc., are withdrawn for domestic consumption, both the import duty and the internal revenue tax must be paid accordingly.

CIGARETTES

The growth of the cigarette industry presents one of the most phenomenal aspects of tobacco history. From a very small beginning shortly after the Civil War, when only hand methods of manufacture were known, this class of tobacco products has grown to a position of predominance in output, in the number of users, in tax returns to the Government, and in the acreage devoted to culture of the raw material. Cigarette types of tobacco, moreover, represent a preponderance in volume among the tobaccos in international trade.

The tobacco used in most cigarettes is a blend of two or more domestic types, and a large percentage of American cigarettes contain some foreign tobacco, notably Turkish, produced in various countries around the eastern end of the Mediterranean Sea. Not only do cigarette blends combine different types of tobacco, but of a given type the blend usually contains leaf from two or more years' crops, because the characteristics of one year's tobacco vary from those of another year's. The effect of these differences is lessened, and the stability of the blend is maintained by combining tobacco from successive crops. For example, a blend might include flue-cured tobacco of 1923, 1924, and 1925 crops, merging into the 1924, 1925, and 1926 crops and later into those of 1925, 1926, and 1927.

The types of American-grown tobacco used in cigarettes are the flue-cured group including U. S. types 11, 12, 13, and 14, Burley, U. S. type 31, and southern Maryland, U. S. type 32. The leaf selected for cigarette manufacture is usually thin, light in color and body, and mild. Only certain leaves on the plant possess the desired characteristics, and these command the higher prices.

CHEWING AND SNUFF

Chewing tobacco is manufactured in the following forms:

PLUG.—This form is made of leaf tobacco pressed into flat plugs after the stems or midribs have been removed. Various additions are made to the tobacco, such as licorice, low-grade maple sugar and honey. The plug consists of two parts, filler and wrapper. Plug wrappers are leaves carefully selected for fine appearance.

TWIST.—This form probably originated on the farm, the grower finding it convenient to make his tobacco up into twists for future

use. Commercial twist tobacco, either sweetened or plain, is rolled into twists by hand labor in small tobacco factories located in producing districts, or by machine methods in the larger manufacturing establishments.

FINE CUT.—In this form the tobacco is cut by machinery to almost hairlike fineness and put up in foil or paper packages. It is used for both chewing and smoking. Fine cut also includes some tobacco so finely cut as to appear coarsely ground, put up in a form that closely resembles moist snuff.

SCRAP CHEWING.—Scrap chewing is made largely from the stemming grades of cigar types and provides a valuable outlet for broken leaves and the scrap from cigar manufacture; it also offers competition for grades of tobacco used in the manufacture of cheap cigars. In form, scrap chewing consists of irregular flakes of tobacco leaf, usually about half an inch in diameter, heavily sized with sweetening and flavoring matter. In the sale of internal revenue stamps for different tobacco products, scrap chewing is included in the class of smoking tobacco, and statistics on the volume of manufacture are therefore lacking.

The manufacture of chewing tobacco was at a high level for a long period up to and including 1918, the closing year of the World War. Since that time the decline has been rapid. The cigarette industry was entering its period of most rapid expansion during the closing years of the war. (Table 20.)

Nearly all types of tobacco are used in the manufacture of chewing, even those that are primarily cigar and cigarette types as well as those others that are unsuited for use in either of these forms. Flue-cured and Burley are now cigarette types in the sense that the cigarette industry provides their most lucrative outlet, yet both owe their early rise largely to the chewing-tobacco industry. Both continue to furnish tobacco used in the manufacture of plug, and some Burley is used in twist.

Types which in this country are used almost exclusively for chewing purposes are Virginia sun-cured and One Sucker, the latter having also an important foreign market. To some extent, too, Green River air-cured and the fire-cured types are used in chewing. Mathewson (11) gave the manufacture of long cut and fine cut as important uses of Green River, fine cut being used for smoking and chewing.

Table 20 shows the production of chewing tobacco in the United States, exclusive of scrap chewing, and since very little chewing tobacco is exported, or imported, it represents fairly well the consumption of chewing tobacco. There is, in addition, some consumption by chewing and smoking of natural leaf on or near the farm where the tobacco is produced. This is true not only in the important tobacco-producing States, but elsewhere. Tobacco-production statistics prepared and published by the Department of Agriculture relate to about 15 States, but small quantities are grown in many States by occasional farmers who cultivate a few rows and make twists of the leaf for home consumption and for sale to their neighbors. There is a small but rather flourishing parcel-post trade in natural leaf for smoking and chewing. The product is unsweetened and unflavored tobacco, which is too strong for the taste of most people.

SNUFF.—Snuff, which is made chiefly of fire-cured tobacco, presents an anomaly in tobacco history. A century or more ago its use

was considered one of the distinguishing marks of the gentleman, and gifts of jeweled snuffboxes were tokens of royal favor. Snuff-taking enjoyed a degree of respectability and elegance for about 200 years, but in more recent times the forms in which it has been used and the classes of users have undergone radical change. Relatively few people now living have seen anyone open a snuffbox and take a pinch of snuff into the nostrils. In fact, a good deal of the snuff now sold is in paste or moist form, and is commonly used by applying between the gums and the cheek. A few "dip" their snuff (8).

The use of snuff as now practiced is probably largely confined to laboring classes in the South, particularly negroes, and to the Scandinavian element in Wisconsin and Minnesota. Table 20, page 52, shows the annual production of snuff from 1880 to 1930.

SMOKING

The term "smoking tobacco" commonly refers to pipe tobacco, although an indeterminate quantity of tobacco so classified is used in hand-rolled cigarettes.

Most smoking tobacco is treated by the addition of various substances which contribute to the mildness and aroma of the smoke⁹ and prevent too rapid drying out of the tobacco. In addition, all tobacco is aged for one or more years before using. The aging process, during which the tobacco goes through annual sweats or fermentations, has an important effect in mellowing it and enhancing the aroma.

The most widely used type for the manufacture of smoking tobacco is Burley. Some of the most widely distributed brands of smoking tobacco are made exclusively of that type, and probably few do not include some Burley. Many brands are blends of selected grades of numerous types.

The quantity of tobacco consumed by pipe smokers is not definitely known. Smoking tobacco as reported to the Bureau of Internal Revenue and shown in Table 20 includes unknown quantities of scrap chewing, used only to a small extent for smoking.

QUANTITIES OF LEAF TOBACCO CONSUMED IN VARIOUS FORMS

So far the forms of tobacco products have been considered with reference to the total quantities manufactured. The subject should be analyzed further, with reference to the quantities of leaf tobacco used in different forms, since a satisfactory comparison can not be made, for instance, between the number of cigarettes and the number of pounds of chewing or smoking tobacco produced in a given year. Similarly, data on the consumption of a given product over a series of years may be misleading because the influence of increasing population is not brought out. From the standpoint of the tobacco grower and the economist, the important points to be considered are the quantities of leaf tobacco consumed in different forms, and the trends in consumption per capita (p. 62).

⁹ It may be noted here, in connection with the flavoring of smoking tobacco and snuff, that the wild plant commonly known as deer's-tongue, houndstongue, or Carolina vanilla plant (*Trilisa odoratissima*) has been an article of commerce for such purposes for at least 60 years. It is referred to in the report of the Department of Agriculture for 1871 (17) which states that the leaves exhale the odor of vanilla when bruised and are used by tobaccoists for flavoring smoking tobacco. Correspondence in recent years indicates that the plant is still in use, although the commerce in it appears to be small. Deer's-tongue is found in pine barrens from North Carolina to Florida.

Statistics on the consumption of leaf tobacco used in manufacture as compiled by the Commissioner of Internal Revenue are shown in Table 22.

TABLE 22.—*Leaf tobacco consumed in the manufacture of cigars, cigarettes, tobacco, and snuff, 1915–1930*¹

[In thousand pounds; i. e., 000 omitted]

Calendar year	Cigars		Cigarettes		Tobacco and snuff	Total
	Large	Small	Large	Small		
1915.....	134, 065	4, 032	91	56, 460	370, 794	565, 442
1916.....	145, 243	3, 647	102	78, 473	384, 875	612, 340
1917.....	153, 957	3, 775	130	113, 149	388, 570	659, 581
1918.....	146, 392	3, 446	209	145, 846	396, 121	692, 014
1919.....	148, 778	2, 726	151	166, 632	330, 097	648, 384
1920.....	166, 361	2, 236	133	146, 769	324, 478	639, 982
1921.....	140, 659	2, 569	135	158, 201	310, 687	612, 251
1922.....	149, 363	2, 346	142	163, 455	325, 510	646, 816
1923.....	157, 837	1, 915	157	200, 288	328, 889	689, 036
1924.....	151, 356	2, 057	138	217, 562	322, 745	693, 858
1925.....	147, 531	1, 471	145	244, 170	325, 109	718, 426
1926.....	151, 049	1, 322	109	267, 475	317, 399	737, 354
1927.....	151, 049	1, 461	96	290, 368	301, 314	744, 288
1928.....	149, 993	1, 297	88	310, 071	293, 176	754, 625
1929.....	150, 878	1, 251	93	346, 450	297, 954	796, 626
1930.....	136, 750	1, 151	65	347, 849	293, 990	779, 806

¹Quantities given represent the equivalent in unstemmed leaf tobacco of the different kinds of tobacco used as shown by accounts kept with each manufacturer by the Bureau of Internal Revenue. The rule for conversion to unstemmed was to divide by 3 and multiply the quotient by 4.

Compiled from annual reports of the Commissioner of Internal Revenue.

The significance of Table 22 is emphasized by Figure 29.

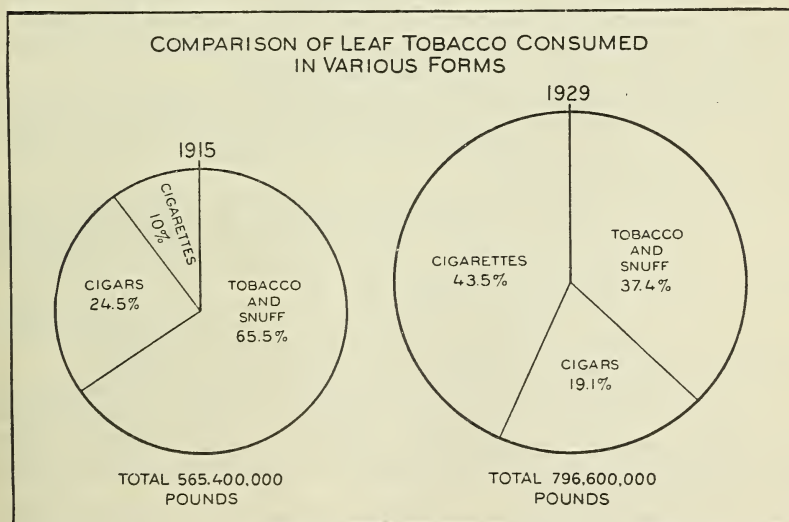


FIGURE 29.—The sizes of the circles are proportional to the total volume of tobacco consumed in the two years respectively. Note the enormous increase in the sector representing cigarettes, and the decreases in other forms

The figures in Table 22 are based upon statements from manufacturers in which they account for the quantity of tobacco on hand at the beginning of the year, the quantity received during the year, and the quantity remaining on hand at the close of the year

The reports from the manufacturers of smoking, chewing, and snuff tobacco show also the quantities of other materials used. (Table 23.)

TABLE 23.—*Materials used in the manufacture of smoking, chewing, and snuff tobacco, 1920-1930*

[In thousand pounds; i. e., 000 omitted]

Calendar year	Un-stemmed leaf	Stemmed leaf	Scraps	In process	Stems	Licorice	Sugar	Other materials	Total
1920-----	155, 128	90, 331	36, 681	17, 637	24, 220	39, 367	46, 478	33, 313	443, 155
1921-----	148, 913	83, 727	37, 603	16, 108	15, 584	34, 576	43, 235	32, 721	412, 467
1922-----	153, 671	92, 346	36, 533	15, 473	15, 661	36, 539	48, 180	33, 239	431, 642
1923-----	156, 386	93, 900	35, 477	14, 020	16, 154	37, 665	46, 564	35, 612	435, 778
1924-----	153, 851	93, 955	32, 716	14, 958	17, 468	37, 154	47, 888	34, 343	432, 333
1925-----	153, 119	93, 939	35, 053	14, 951	16, 671	35, 805	46, 990	33, 814	430, 342
1926-----	151, 878	92, 451	31, 690	13, 583	16, 584	36, 231	50, 677	34, 260	427, 354
1927-----	147, 299	84, 325	31, 186	15, 833	15, 672	34, 196	50, 414	34, 074	412, 999
1928-----	149, 203	78, 275	29, 705	15, 768	13, 800	32, 959	48, 993	34, 428	403, 131
1929-----	156, 848	74, 859	30, 970	14, 636	15, 812	32, 651	50, 272	33, 897	399, 945
1930-----	158, 322	70, 397	31, 354	13, 253	15, 715	30, 674	46, 744	33, 104	389, 563

¹ Decrease in "in process" used in 1929 and 1930 is due to reporting the kinds of material instead of snuff flour in process used to produce snuff in Tennessee.

Compiled from annual reports of the Commissioner of Internal Revenue.

The data on leaf tobacco used in manufacture (Table 22) result from so treating the different items of tobacco mentioned above as to reduce them to the basis of unstemmed tobacco according to an empirical formula that has proven satisfactory for the purpose immediately in hand—that of accounting for tobacco from the time it leaves the farmers' hands until the tax has been paid. For this purpose an allowance of 25 per cent is made for loss in weight in stemming or removing the midrib. No allowance is made for losses in weight due to drying, and for this reason the figures are not strictly comparable with statistics of tobacco production.

In studying Tables 22 and 23 with reference to weights of the leaf tobacco and other materials used and the weights of the manufactured products shown in Table 20, the following important differences should be considered:

(1) In the manufacture of chewing and smoking tobacco the stems of the leaves are removed, although in Table 22 the tobacco is reported in the unstemmed form. In the manufacture of snuff the tobacco is dried and ground, stems and all.

(2) In the manufacture of chewing and smoking tobacco large quantities of licorice, sugar, and other materials are used, but they are used to only a small extent in the manufacture of snuff.

(3) In the manufacture of most chewing and smoking tobacco, the manufactured weights materially exceed the weight of unstemmed leaf tobacco used in manufacture. Snuff, on the contrary, weighs less than the tobacco and stems used in its production, though more than the leaf component.

Because of the extraneous materials, the weight of chewing, smoking, and snuff tobacco products exceeds the weight of the unstemmed tobacco used in their manufacture. During the years 1915 to 1930, inclusive, manufactured weights exceeded leaf weights by 19 to 32 per cent.

There is no rule by which the respective quantities of chewing and smoking tobacco shown in Table 20 can be accurately converted into leaf-tobacco equivalents. Practically all of the materials reported in Table 23 under the heads of licorice, sugar, and other materials are

used in the manufacture of these tobaccos and very little of it in snuff. The actual quantity of tobacco present, if stemming losses are deducted, probably does not exceed 75 per cent of the total weight of the manufactured product, on the average, and may run less. The proportion of flavoring and sweetening material varies for different products. It is probably greatest in plug chewing tobacco, and least in granulated smoking tobacco. There is some basis for assuming, also, that the percentage of extraneous materials used in manufacture is influenced by tobacco prices. That is, the percentage appears to be lowest in years when prices of leaf tobacco are very low, and greatest when tobacco prices are high.

A fairly accurate estimate can be made of the quantity of leaf tobacco used in snuff. Although manufacturers' formulas vary widely, on the average the materials used are approximately as follows:

	Pounds
Unstemmed tobacco.....	76
Tobacco stems.....	21
Licorice, sugar, and other materials.....	3

One hundred pounds of these materials will produce approximately 80.8 pounds of snuff; the quantity is smaller if the snuff is dry, and larger if the snuff is moist. On the average, 100 pounds of unstemmed tobacco is used in the manufacture of 109 pounds of snuff, and this provides a fairly accurate factor for interpreting reports of snuff manufactured annually in terms of leaf tobacco consumed, that is, total pounds of snuff divided by 1.09 may be taken to represent leaf tobacco so used.

LOSSES IN WEIGHT

Definite information on the actual losses in weight has not been obtained. Farmers ordinarily market their tobacco at a time of the year when it is most likely to be "in order," that is to say, when the tobacco has taken up a sufficient quantity of moisture from the atmosphere to become pliable and easily handled without injury. Sometimes tobacco is marketed in very high order, that is, when it contains a high percentage of moisture, but by the time it has been sold and is sent to the redrier or is otherwise disposed of some loss in weight has already occurred. Tobacco of many types is at once put through a redrying machine, where it is first subjected to heat and rendered practically bone-dry, and then subjected to steam to bring the leaf to a predetermined and uniform moisture content.

The degree of moisture content is controlled and is varied according to the intended disposition of the tobacco. If the tobacco is to be exported, the moisture content is lower than if storage for domestic use is intended; even for export the moisture content is varied somewhat in accordance with the import regulations and practices of different foreign countries. Thus, for export to the United Kingdom, the tobacco is packed with a moisture content of 10 to 11 per cent, which is lower than for other countries where lower duties prevail. Other types are packed directly in hogsheads or cases for storage where the tobacco undergoes several sweats. A rather important loss in weight accompanies the chemical changes that take place during these fermentation and sweating processes.

Cigar leaf and some other tobacco in place of being redried is bulked. Tobacco in bulk goes through a sweat, producing certain chemical changes and losses in weight. Annually thereafter all tobacco goes

through a sweat by which it is mellowed and suffers some additional loss in poundage, although after the second year the loss is very small.

Informed tobacco men estimate the first year's loss from drying, redrying, and sweating, at 10 to 15 per cent for most manufacturing types, and the second year's loss at 2 to 3 per cent. For some cigar

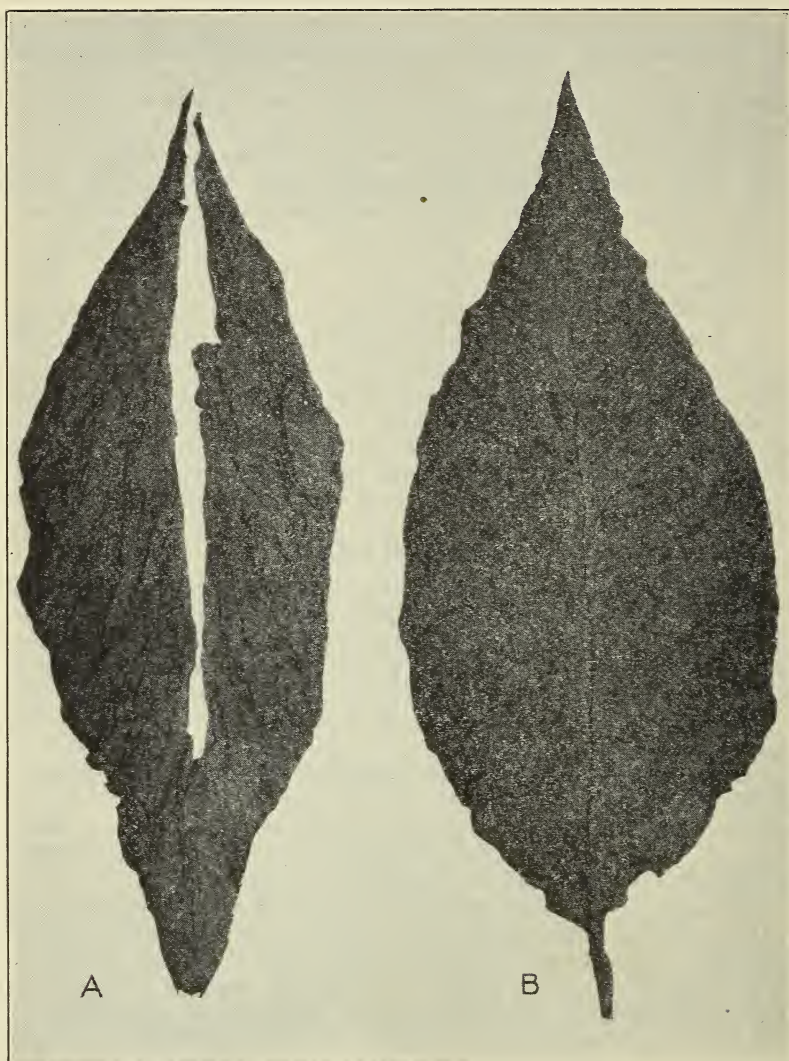


FIGURE 30.—Flue-cured tobacco: A, A leaf with the midrib removed in the operation of stemming; such leaves are known as strips; B, a leaf intact as put up in hands. Note: The position of B is reversed, that is, the lower end corresponds to the upper end of A

types, first-year losses have been estimated to be as high as 15 to 18 per cent, and the second year 3 per cent or more. A further loss of one to three per cent may occur when the tobacco is placed in export order.

Similar variations are encountered in losses incident to stemming. Little commercial value attaches to the stems and midribs of tobacco.

Therefore, it is often found more economical to stem it at once and thus reduce transportation and storage charges. Examples of stemmed and unstemmed leaves are shown in Figure 30. The stems are removed largely by hand labor, although machinery is used. Tobacco that has been stemmed is known as "strips." (Fig. 31.) In some

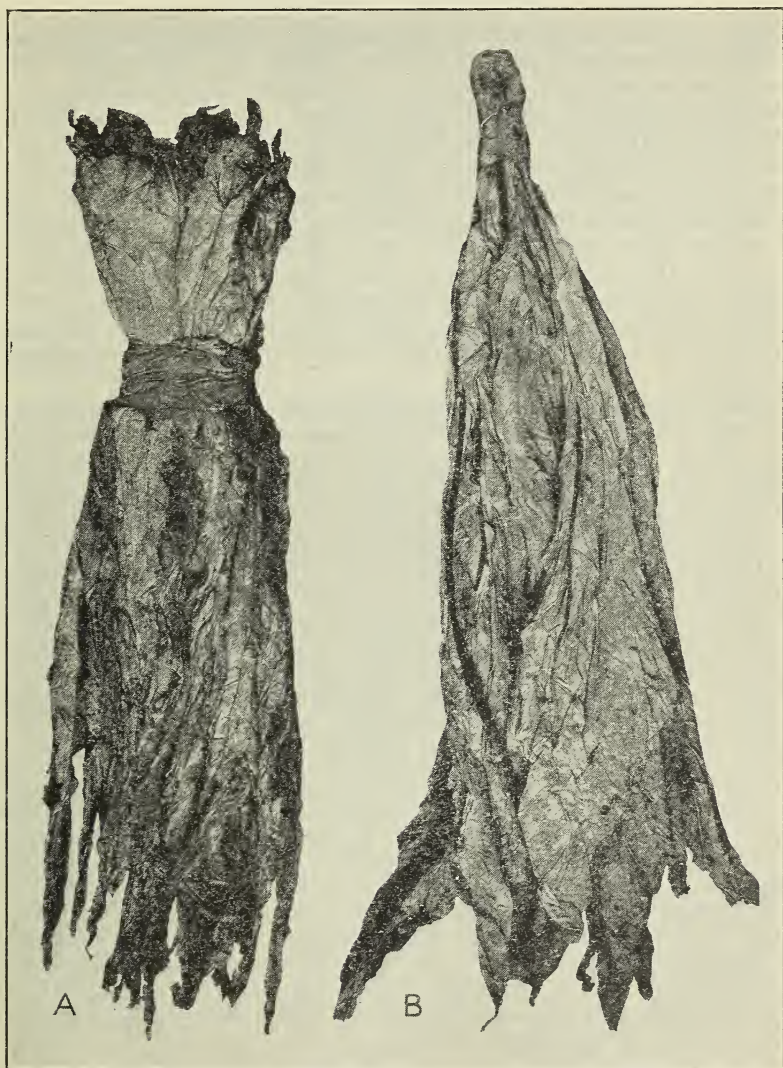


FIGURE 31.—A, A bundle of strips; B, a hand of flue-cured tobacco

types of tobacco, of which flue-cured is an example, stemming losses are relatively small. Examples of tobacco in which stemming losses are heavy are One Sucker and certain of the cigar-leaf types. One Sucker leaves are very long and narrow, possessing an excessively coarse, bony midrib. This is particularly true of varieties formerly common but now rare, known by the descriptive names of Shoestring

and Lizard Tail. One Sucker is said to lose 33 per cent or more of its weight in stemming, and anyone familiar with the old Shoestring variety can readily believe that this is a reasonable estimate. (See also discussion of losses in weight in Supply and Disappearance, p. 2.)

CONSUMPTION PER CAPITA

There are two measures of consumption of manufactured tobacco products—in terms of units per capita, and total consumption. They should be considered together for a complete understanding of the economic aspects of tobacco consumption. Because of the effect of increasing population, the total consumption of a commodity may continue to expand even though a downward trend has begun in the consumption per capita. Such a downward trend may in fact mark the initial stages of declining popular favor in that particular commodity and be of greatest significance to producers and others concerned. Yet, until the movement has gathered considerable momentum, its presence and effects may be obscured by the fact that the annual increase in number of people has carried total consumption into larger quantities for a period beyond the onset of the decline in consumption per capita.

This is apparent in the consumption of cigars and chewing tobacco. The high point in the per capita consumption of cigars was reached about 1905 when it amounted to 80.2 cigars consumed for each man, woman, and child in the United States. (Table 24.) Since that time the consumption of cigars per capita has fluctuated up and down, mostly down, until in 1930 it amounted to 47.8. The high point in total cigars manufactured, which is roughly equivalent to consumption, was reached in 1920, about 15 years after the turning point indicated in the table on per capita consumption. Since 1920 the effects of increasing population have not been sufficient to offset the effects of decreasing consumption per capita, and the cigar industry is faced with the serious problem of endeavoring by changes in manufacturing methods, quality of output, and prices, and by more intensive advertising, to prevent further loss.

In chewing tobacco, as in cigars, the decay of the industry was foreshadowed by the decline in consumption per capita years before the statistics of total manufactures registered a downward trend. Beginning about 1890, when the cigarette habit was still more or less incipient, but was making headway, a pronounced decline in the consumption of chewing tobacco in pounds per capita occurred, yet the high point in total manufactures was not reached until 1917 when 205,900,000 pounds of plug, twist, and fine-cut chewing tobacco were manufactured. Since that time the decline has been so rapid that in 1930 manufactures amounted to only 99,000,000 pounds, a decrease of 52 per cent in 14 years.

Table 24 shows the annual consumption of manufactured tobacco products per capita at 5-year intervals from 1880 to 1930.¹⁰

¹⁰ This table is based on manufactures. Because of exports and imports, a slight error is introduced in using these figures as measures of consumption, which is more accurately reflected by the sales of internal revenue stamps. Statistics of the latter, however, are not available over a sufficient period of years for the present purpose. The slight errors involved are believed to be reasonably constant from year to year, and the computations of per capita consumption are believed to be comparable.

TABLE 24.—Consumption per capita¹ of cigars, cigarettes, chewing, smoking, and snuff, in the United States, at 5-year intervals, 1880-1930

Year	Cigars weigh- ing—		Cigarettes weighing—		Chewing				Smok- ing	Snuff	Total chew- ing, smok- ing, and snuff
	More than 3 pounds per 1,000	Not more than 3 pounds per 1,000	More than 3 pounds per 1,000	Not more than 3 pounds per 1,000	Plug	Twist	Fine- cut	Total			
	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>
1880-----	49.9	-----	-----	10.6	1.8	-----	0.3	2.1	0.7	0.1	2.9
1885-----	58.1	-----	-----	19.1	2.3	-----	.3	2.6	.9	.1	3.6
1890-----	67.1	-----	-----	39.7	2.5	-----	.3	2.8	1.1	.1	4.0
1895-----	58.9	-----	-----	60.9	2.4	-----	.2	2.6	1.2	.1	3.9
1900-----	73.1	8.0	0.1	42.7	2.3	-----	.1	2.4	1.3	.2	3.9
1905-----	80.2	9.5	.1	43.5	1.9	0.1	.1	2.1	2.0	.3	4.4
1910-----	73.8	12.1	.2	93.7	1.9	.1	.2	2.2	2.3	.3	4.8
1915-----	66.4	9.7	.2	180.9	1.5	.2	.1	1.8	2.4	.3	4.5
1920-----	76.0	7.6	.3	445.2	1.3	.1	.1	1.5	2.1	.3	3.9
1925-----	56.3	3.9	.2	716.3	.9	.1	.1	1.1	2.2	.3	3.6
1930-----	47.8	3.1	.1	1,005.0	.7	.1	(2)	.8	1.9	.3	3.0

¹ Based on estimates of population July 1, by the Bureau of the Census.² Less than five-hundredths of a pound.

EFFECT OF TOBACCO-CONSUMING HABITS ON GEOGRAPHY OF TOBACCO PRODUCTION

The preference of users as to the form in which they elect to use tobacco constitutes one of the most powerful influences in the economics of tobacco production. It follows, then, that the economic history of tobacco production, the rise and fall in importance of one tobacco area and another, reflect the changing preferences of the ultimate consumers.

The changes in modes of consumption that have occurred and are still in progress are fundamental in their economic significance. Types which in years gone by dominated the domestic export trade in tobacco have lost some of their foreign markets completely and other markets partly; on the other hand, types favored by the world-wide trend toward cigarette consumption have been in demand to an extent undreamed of a few years ago. Whereas the scale of tobacco production in some sections has shrunk to a fraction of its former size, in other sections more and more land has been given over to this crop. Thus the geography of type districts has undergone great change. For example, in 1909, approximately 341,900 acres of flue-cured tobacco were grown in the United States; the acreage in 1928, 1929, and 1930 exceeded 1,000,000 acres. Other types have increased or decreased in greater or less degree according to whether there has been an increase or decrease in consumption of the products manufactured therefrom. This is shown in Table 25.

TABLE 25.—*Comparison of acreage of types of tobacco grouped according to primary manufacturing uses, 1909-1913 and 1926-1930*

Group	1909-1913		1926-1930		Increase (+) or decrease (—) in acreage
	1,000 acres	Per cent	1,000 acres	Per cent	Per cent
Cigarette types ¹	605.0	54	1,414.0	78	+134
Smoking, chewing, and snuff types ²	335.5	30	275.9	15	—18
Cigar types ³	176.5	16	136.4	7	—23
Total.....	1,117.0	100	1,826.3	100	+64

¹ Includes flue-cured, Burley, and Maryland types, all of which contribute to the supply of cigarette tobacco as well as to the supplies used in the manufacture of chewing and smoking tobacco.

² Includes fire-cured and dark air-cured types which are used in the production of chewing and smoking tobacco and snuff. Types in the first and second groups also comprise practically all the domestic exports, their uses abroad being generally the same as their domestic uses.

³ Includes cigar types, used only in the manufacture of cigars and scrap chewing.

Computed from reports of the Division of Crop and Livestock Estimates.

Cigarette types increased 134 per cent in total acreage, and from 54 per cent of the total during 1909-1913 to nearly 78 per cent of the total during 1926-1930. Smoking, chewing, and snuff types decreased 18 per cent in acreage, and from 30 to 15 per cent of total acreage. Cigar types lost 23 per cent in acreage, and dropped from 16 to only 7 per cent in relation to the total acreage.

The significance of a study of the consuming habits of a nation lies chiefly in its import as to future requirements for the commodities studied, and the effect of changing requirements upon farm practices over wide areas. The figures that have been presented indicate that changes in tobacco-consuming habits are in progress.

No one can foretell how long the present trends of consuming habits will endure, nor when or how these trends will be given new direction. Yet, records of the past are convincing evidence that however long the duration of a nation-wide tobacco habit, however long the period during which popular fancy turns more and more to that habit, eventually the time comes when interest in it begins to wane and another mode of consumption rises to dominance. It is difficult at this time to conceive of an entirely new method of using tobacco. It is not difficult to believe that in time there will be an eventual revival in some one of the modes that at present seem to have been eclipsed by the cigarette habit. Such a development does not seem likely to occur for some time to come, for even should the number of cigarettes consumed per person reach its peak and become stationary, or possibly decline, the normal increase in total population would ordinarily cause an increase in the total number of cigarettes consumed. Not until the per capita consumption actually declines and that decline becomes so pronounced as to outweigh the effect of increasing population can it be said that the requirements for cigarette types of tobacco are on the down grade.

Times of serious economic depression have observable effects upon the rate of consumption of some tobacco products. For example, the effect of the economic depression of 1920 on tobacco consumption was particularly noticeable as to cigarettes. Thereafter cigarette consumption increased at an average annual rate of about 11 per cent until

1930, in which year a slight decline from 1929 was indicated by the sales of cigarette stamps; in 1931 the decline was 5 per cent. During 1931 the consumption of cigars was 9.7 per cent less than in 1930, but the consumption of tobacco in pipes and hand-rolled cigarettes increased. It is clear that in times of widespread unemployment there is a tendency either to use less tobacco, or to consume tobacco in a less expensive form.

The question is frequently raised whether growers could change from one type of tobacco to another, or could cure the same type by another method, as a means of increasing profits. Such changes are possible only within very narrow limits. The factors that contribute to qualities and characteristics by which the types are differentiated and for which there is an established demand are as follows:

(1) *The character of the soil in which the tobacco is grown*

No crop is more susceptible to slight changes in soil and subsoil than tobacco: Soil is the chief determining and limiting factor. There are few localities where two or more types can be grown interchangeably, such as the Miami Valley district of Ohio, and the Connecticut Valley, in each of which three different types of cigar tobacco are grown. Even here it should be noted that the interchangeable types are rather closely related in the sense that all are especially adapted to the manufacture of cigars. In addition there are, as has been previously indicated, very limited transition zones wherein types are alternated or shifted.

(2) *The climate in which the tobacco is grown*

Climatic factors include the temperature range, normal precipitation, relative humidity, and relative number of hours of daylight.

(3) *Variety of seed*

The different varieties of tobacco have been bred under certain soil conditions to meet specific requirements. These varieties, if transferred to a new environment, would immediately lose some of their characteristics and consequent value.

(4) *Methods of cultivation, fertilization, and harvesting*

These relate particularly to the qualities obtained by the choice of cultural methods. Under cultivation are included such questions as spacing between plants, and time and height of topping, which affect the thickness of the leaf, and growing under shade or open field. Fertilization and methods of harvesting (priming or stalk cutting) have important effects, especially on the burning qualities and color.

(5) *Method of curing*

As has been noted (p. 5), types of tobacco are grouped largely according to the three curing methods practiced. The effects of curing upon the color, finish, and aroma of the tobacco vary. The effects obtained by the flue-curing method upon the varieties grown under the soil and climatic conditions prevailing in the recognized flue-cured districts would not be obtained if applied in Maryland or other air-cured districts, or in the fire-cured districts. Conversely, tobacco in the flue-cured district, if cured by air-curing or fire-curing technic, would fail to achieve the qualities and characteristics of the recognized air-cured and fire-cured types. Again, if seed from the heavy-bodied types of western Kentucky, Tennessee, or elsewhere were introduced into the Atlantic coastal plain it would not, even with flue-curing methods, develop the true characteristics of flue-cured tobacco.

The association between soil, seed, climate, and cultural and curing practices is so close and has such a determining effect upon the type produced as to preclude, as a general rule, the duplication of any given type in a new environment. The cases where growers can successfully shift from one type to another are so few that they serve to emphasize the general rule to the contrary.

EXPORTS AND IMPORTS

EXPORTS

In colonial times the overseas trade in tobacco was so important that statistics on exports represent the only apparent record of production for the period 1618 to 1788 (7). Beginning with 20,000 pounds in 1618, they permanently passed 1,000,000 pounds in 1639. From 1664 to 1774 exports ranged from 20,000,000 to more than 107,000,000 pounds. From then until 1814 the quantity exported fluctuated widely, and it was not until 1851 that exports permanently exceeded 100,000,000 pounds. Since 1870 the exports have never fallen below 200,000,000 pounds, and since 1899 they have only twice fallen below 300,000,000 pounds.¹¹ In recent years, allowing for some loss in weight in the tobacco as reported in export statistics, approximately one-half of the total United States production has been exported.

The factor of predominant influence in the tobacco industry to-day is the steadily increasing consumption of the cigarette throughout much of the world. Its effects are apparent, therefore, not only in the increasing production of cigarette types of tobacco for domestic consumption but in the exports and imports of cigarette tobacco. Tobacco from earliest colonial times has been one of our important export commodities, being exceeded in export value among agricultural products only by cotton, wheat, and some meat products, but the character of tobacco exported has undergone great change. In earlier times the tobacco was probably air cured as a rule, while open fires were used in periods of muggy weather to prevent injury from what is variously called "pole sweat," "shed burn," "house burn," etc. But the smoke from open wood fires, curling up through the hanging tobacco, imparted a finish and an aroma that found favor, with the result that in some counties of Virginia fire curing became the rule. When the early pioneers penetrated into what is now western Kentucky and Tennessee the tobacco seed and fire-curing technic were carried with them, and even before the Revolution fire-cured tobacco was transported by water to New Orleans and thence to foreign ports. Fire-cured tobacco, therefore, became in time the leading export type; only in recent times has it lost its leadership.

Beginning with 1923 statistics of tobacco exports, compiled and published by the United States Department of Commerce, have been segregated on the basis of types. In Table 26 the exports by types and total leaf exports are shown for the years 1923 to 1931, inclusive, and the percentage of each type to the total. The increasing percentage of flue-cured and the decreasing percentage of fire-cured tobacco are noteworthy.

¹¹ For statistics of total exports of leaf tobacco see statistical tables, Yearbook of Agriculture, 1931 (1, p. 711-712) and previous years.

TABLE 26.—Exports of leaf tobacco from the United States, by types, 1923-1931

Calendar year	Flue cured	Air cured				Cigar leaf	Fire cured		Other ²	Black fat, water baler, and dark African ³	Total leaf ⁴
		Burley	Maryland and Ohio export	Green River	One Sucker ¹		Kentucky and Tennessee	Virginia			
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds
1923-----	179,982	6,001	18,062	14,057	-----	389	150,880	48,361	56,768	-----	474,500
1924-----	265,515	7,398	12,831	16,085	-----	1,464	170,228	31,070	41,964	-----	546,555
1925-----	278,279	6,017	13,913	17,971	-----	883	116,974	20,343	14,091	-----	468,471
1926-----	287,335	6,729	13,592	14,076	-----	619	119,847	18,390	18,185	-----	478,773
1927-----	302,425	17,844	20,036	12,829	6,370	531	112,008	24,277	9,313	619	506,252
1928-----	434,898	6,544	10,947	8,368	3,227	662	84,014	18,695	6,557	1,500	575,412
1929-----	410,836	5,336	11,577	10,362	3,213	4,409	79,777	24,122	60	5,655	555,347
1930-----	397,695	9,624	9,721	7,919	2,789	4,153	105,440	15,379	164	8,074	560,958
1931-----	388,252	8,919	7,549	5,347	1,477	3,794	67,971	11,430	134	8,673	503,546
	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
1923-----	37.9	1.3	3.8	2.9	-----	0.1	31.8	10.2	12.0	-----	100
1924-----	48.6	1.4	2.3	2.9	-----	.3	31.1	5.7	7.7	-----	100
1925-----	59.4	1.3	3.0	3.8	-----	.2	25.0	4.3	3.0	-----	100
1926-----	60.0	1.4	2.8	3.0	-----	.1	25.1	3.8	3.8	-----	100
1927-----	59.8	3.5	4.0	2.5	1.3	.1	22.1	4.8	1.8	0.1	100
1928-----	75.6	1.1	1.9	1.5	.6	.1	14.6	3.2	1.1	.3	100
1929-----	74.0	.9	2.1	1.9	.6	.8	14.4	4.3	(5)	1.0	100
1930-----	70.9	1.7	1.7	1.4	.5	.8	18.8	2.8	(5)	1.4	100
1931-----	77.1	1.8	1.5	1.1	.3	.7	13.5	2.3	(5)	1.7	100

¹ Prior to Jan. 1, 1927, included with Green River.² Prior to Jan. 1, 1929, includes small quantities of several types not reported separately; beginning Jan. 1, 1929, perique only.³ Prior to Jan. 1, 1927, included with other leaf.⁴ Exclusive of stems, trimmings, and scrap.⁵ Less than 0.1 per cent.

NOTE.—Flue cured is the only American type which has an important place in the manufacture of cigarettes in foreign countries. However, some Maryland tobacco is so used.

Compiled from Foreign Commerce and Navigation of the United States, 1923-1929, and official records of the Bureau of Foreign and Domestic Commerce, 1930-31.

Various factors influence the foreign demand for American tobacco—changes in import duties, scarcity or abundance of foreign stocks, political or economic disturbances in the importing countries, tobacco prices on domestic markets, volume of domestic or competing foreign production, changing habits of consumers, etc. All of these factors are subject to change, and many of them show interrelationships. The resultant of these combined forces is the volume of tobacco exported of the respective types, and the effect on prices paid to growers.

Export statistics are presented herein on the basis of calendar years. It is to be noted, however, that the period during which a given year's production is exported does not usually correspond to the calendar-year basis, but follows more nearly the marketing season. Tobacco exports are distributed throughout the year but are subject to a certain degree of seasonal variation. The marketing season for flue-cured tobacco, for example, begins about the last week in July for type 14, produced in Georgia and Florida; early in August for type 13, South Carolina; and in September for the types in North Carolina and Virginia. The exports of flue-cured tobacco are relatively low during the summer months and for a time after the opening of the market. A sharp increase usually occurs in September, which leads to the assumption that the 1929 crop of flue-cured tobacco, for example, was exported during a period beginning in September, 1929, and continuing at least through August, 1930. Exports of some types of tobacco are fairly evenly distributed throughout the year. With respect to all types of which significant quantities are exported, it is safe to assume a lag of at least one month between the opening of the

marketing season and the beginning of the export year. The marketing seasons for various types are shown in Figure 38.

Statistics on exports show the quantities sent to the countries taking the bulk of exports. Tables 27 and 28 show the relative importance of the countries that lead as importers of American-grown tobacco without respect to type, and the exports of manufactured tobacco products. Table 31 shows reexports of leaf tobacco and manufactured tobacco products.

TABLE 27.—*Exports of all leaf¹ tobacco from the United States to principal importing countries, 1923-1931*

Importing country	1923	1924	1925	1926	1927	1928	1929	1930	1931
	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>
United Kingdom.....	¹ 154,558	² 159,697	171,115	149,720	182,542	173,671	214,598	193,816	157,467
China.....	40,959	72,013	82,598	85,792	51,359	160,391	100,675	109,504	148,635
Germany.....	36,719	44,165	21,587	27,854	31,387	30,164	20,461	23,044	18,425
Italy.....	34,316	16,846	11,263	5,814	3,262	1,817	3,368	3,881	4,076
France.....	30,171	41,803	21,723	49,573	38,082	21,447	35,840	56,517	29,655
Belgium.....	33,789	24,442	14,255	21,592	26,293	15,679	13,752	16,609	17,064
Netherlands.....	27,713	41,625	20,803	29,566	27,483	23,788	21,731	23,273	18,873
Australia.....	23,344	20,652	22,577	23,356	19,812	21,167	19,915	28,739	15,756
Spain.....	16,288	31,931	15,031	1,483	20,829	17,036	12,929	1,058	5,990
Canada.....	11,357	15,708	11,956	15,508	15,394	16,097	14,511	14,146	12,406
Other countries.....	65,286	77,673	75,563	68,515	89,809	94,155	97,567	90,371	75,199
Total.....	474,500	546,555	468,471	478,773	506,252	575,412	555,347	560,958	503,546
	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>	<i>Per cent</i>
United Kingdom.....	32.6	29.2	36.5	31.3	36.1	30.2	38.6	34.6	31.3
China.....	8.6	13.2	17.6	17.9	10.2	27.9	18.1	19.5	29.5
Germany.....	7.7	8.1	4.6	5.8	6.2	5.2	3.7	4.1	3.7
Italy.....	7.2	3.1	2.4	1.2	.6	.3	.6	.7	.8
France.....	6.4	7.6	4.6	10.4	7.5	3.7	6.5	10.1	5.9
Belgium.....	7.1	4.5	3.1	4.5	5.2	2.7	2.5	3.0	3.4
Netherlands.....	5.9	7.6	4.5	6.2	5.4	4.1	3.9	4.1	3.7
Australia.....	4.9	3.8	4.8	4.9	3.9	3.7	3.6	5.1	3.1
Spain.....	3.4	5.8	3.2	.3	4.1	3.0	2.3	.2	1.2
Canada.....	2.4	2.9	2.6	3.2	3.1	2.8	2.6	2.5	2.5
Other countries.....	13.8	14.2	16.1	14.3	17.7	16.4	17.6	16.1	14.9

¹ Includes "other leaf" which prior to Jan. 1, 1929, included small quantities of several types not reported separately and beginning Jan. 1, 1929, perique only; for this reason, will not check with totals reported in Tables 3, 6, 9, 13, and 18.

² Includes Ireland; beginning 1925, Irish Free State is not included.

Compiled from Foreign Commerce and Navigation of the United States, 1923-1930, and official records of the Bureau of Foreign and Domestic Commerce, 1931.

TABLE 28.—*Exports and shipments of manufactured tobacco products from the United States to possessions and other countries, 1920-1931*

Calendar year	Cigarettes			Cigars and cheroots	Plug	Smoking	All other
	China ¹	Other	Total				
	<i>Millions</i>	<i>Millions</i>	<i>Millions</i>	<i>Millions</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>	<i>1,000 pounds</i>
1920.....	8,518	7,436	² 15,954	64.8	² 5,384	² 6,153	⁽³⁾
1921.....	6,567	2,140	² 8,707	14.8	² 2,745	² 8,742	⁽³⁾
1922.....	9,198	2,412	² 11,610	10.0	² 3,949	² 2,516	⁴ 1,546
1923.....	10,105	2,535	12,640	8.8	3,955	1,958	675
1924.....	8,109	2,876	10,985	7.5	⁵ 3,988	2,356	⁶ 73
1925.....	5,398	3,243	8,641	10.2	3,894	2,469	⁶ 65
1926.....	6,897	3,206	10,103	14.3	3,786	2,463	628
1927.....	4,418	3,268	7,686	6.6	3,861	2,541	542
1928.....	8,670	3,739	12,409	6.2	3,981	2,413	818
1929.....	4,855	4,429	9,284	9.4	4,127	2,107	652
1930.....	1,370	4,360	5,730	8.6	3,300	2,236	300
1931.....	142	3,728	3,870	7.6	2,877	1,971	264

¹ Includes Hong Kong and Kwangtung.

² Puerto Rico not included; value only reported.

³ Value only reported.

⁴ Exports; value, only, of shipments reported.

⁵ Beginning 1924, reported as "chewing tobacco, plug, and other."

⁶ Alaska and Hawaii, only; others reported in value.

Compiled from reports of the Bureau of the Census, 1920-1929, and Monthly Summary of Foreign Commerce of the United States, 1930-31.

IMPORTS

Tobacco imported into the United States from foreign countries is of two general classes: (1) Cigarette tobacco, almost entirely of the so-called Turkish or oriental varieties, and (2) cigar tobacco. In addition, large quantities of cigar tobacco are shipped in from some of the insular possessions, mainly Puerto Rico, and the Philippine Islands.

The cigarette tobaccos come from various districts in the Mediterranean Basin and are usually referred to as Turkish, although numerous countries of southeastern Europe and the Near East contribute to the supplies imported. Their tobacco is not in a strict sense regarded as a competitor with American-grown types. Rather it supplements American types in the blends of nearly all the popular brands of cigarettes.

Cigar tobacco brought into this country is classified, for customs purposes, as "leaf suitable for cigar wrappers," and "other cigar leaf." As will be noted from Table 29, practically all the wrapper tobacco is imported from the Netherlands, being the product of the Dutch possessions, Sumatra and Java. Other cigar leaf is primarily of filler types, though it contains some tobacco of wrapper quality.

Imports and reexports of tobacco and tobacco products are shown in Tables 29, 30, and 31.

TABLE 29.—Imports of leaf tobacco by the United States from foreign countries and shipments from possessions, 1923-1931

[In thousands of pounds; i. e., 000 omitted]

Product and country from which imported	1923	1924	1925	1926	1927	1928	1929	1930	1931
Cigar wrapper:									
Netherlands.....	7, 485	5, 821	6, 261	6, 323	5, 664	6, 498	8, 460	3, 758	4, 694
Other countries.....	223	73	174	228	120	133	103	100	51
Total.....	7, 708	5, 894	6, 435	6, 551	5, 784	6, 631	8, 563	3, 858	4, 745
Other cigar leaf:									
Philippine Islands.....	1, 931	1, 231	1, 166	908	1, 611	3, 727	3, 963	4, 680	4, 144
Cuba.....	20, 422	19, 040	21, 133	22, 562	23, 254	21, 869	22, 237	19, 656	16, 228
Puerto Rico.....	17, 838	16, 370	20, 358	27, 261	24, 047	17, 575	22, 303	19, 193	16, 565
Other countries.....	5, 031	3, 591	163	110	288	13	20	58	8
Total.....	45, 222	40, 232	42, 820	50, 841	49, 200	43, 184	48, 523	43, 587	36, 945
Cigarette leaf:									
Bulgaria.....	278	1, 296	347	499	78	46			15
Germany.....	1, 190	1, 751	892	729	896	885	412	113	49
Greece.....	12, 395	20, 748	22, 958	13, 704	29, 909	13, 152	17, 340	15, 562	19, 698
Italy.....	1, 592	5, 183	10, 312	10, 764	17, 570	10, 280	8, 894	9, 811	11, 967
Turkey.....	2, 986	6, 995	12, 085	9, 812	20, 957	15, 624	4, 162	14, 280	11, 409
Other countries.....	1, 781	992	431	651	410	348	196	106	364
Total.....	20, 222	36, 965	47, 025	36, 159	69, 820	40, 335	31, 004	39, 872	43, 502
Scrap and other unmanufactured.....	5, 198	6, 466	6, 749	6, 231	8, 813	10, 413	10, 433	9, 173	11, 160

Compiled from Foreign Commerce and Navigation of the United States and Monthly Summary of Foreign Commerce of the United States.

TABLE 30.—*Imports of manufactured tobacco products by the United States from foreign countries and shipments from possessions, 1923-1931*

Product and country from which imported	1920	1921	1922	1923	1924	1925
Cigarettes:						
Philippine Islands.....pounds..	10, 697	2, 724	2, 915	7, 327	1, 353	2, 258
Puerto Rico.....thousands.....	5, 247	1, 002	847	1, 156	11, 295	2, 850
Other countries.....pounds.....	14, 442	7, 788	11, 965	9, 744	(1)	(1)
Cigars and cheroots:						
Philippine Islands.....do.....	5, 469, 966	1, 659, 779	2, 367, 328	4, 210, 017	3, 158, 205	3, 225, 868
Puerto Rico.....thousands.....	244, 852	121, 347	165, 478	193, 746	175, 075	207, 110
Other countries.....pounds.....	679, 791	304, 073	457, 885	483, 774	409, 824	517, 442
All other manufactures.....do.....	282, 933	274, 076	275, 689	326, 022	324, 299	255, 358

Product and country from which imported	1926	1927	1928	1929	1930	1931
Cigarettes:						
Philippine Islands.....pounds..	38, 311	36, 643	25, 229	16, 546	6, 246	9, 525
Puerto Rico.....thousands.....	4, 625	5, 227	5, 368	4, 730	17, 767	11, 670
Other countries.....pounds.....	(1)	(1)	(1)			
Cigars and cheroots:						
Philippine Islands.....do.....	3, 021, 298	2, 645, 177	2, 574, 138	2, 073, 116	1, 900, 864	2, 055, 810
Puerto Rico.....thousands.....	177, 501	147, 555	153, 590	144, 967	157, 877	162, 208
Other countries.....pounds.....	424, 327	413, 077	390, 271	380, 530	280, 155	216, 934
All other manufactures.....do.....	374, 679	402, 747	274, 249	211, 463	220, 567	176, 102

¹ Included in "All other manufactures."

Compiled from Foreign Commerce and Navigation of the United States and Monthly Summary of Foreign Commerce of the United States.

TABLE 31.—*Reexports of tobacco from the United States, 1920-1931*

Calendar year	Leaf		Manufactured		
	Cigar wrapper	Other	Cigarettes	Cigars and cheroots	Other
	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>
1920.....	935, 760	10, 524, 063	2, 510	3, 355	41, 557
1921.....	1, 322, 809	6, 302, 948	391	2, 444	19, 706
1922.....	990, 063	5, 134, 679	1, 397	536	27, 044
1923.....	413, 466	3, 202, 937	171	1, 039	223, 688
1924.....	541, 520	4, 307, 654	475	8, 039	50, 992
1925.....	671, 667	1, 483, 795	478	1, 433	256, 453
1926.....	460, 567	698, 513	1, 120	511	43, 209
1927.....	330, 826	1, 160, 033	7, 808	86	78, 306
1928.....	213, 314	2, 178, 539	3, 050	55	165, 884
1929.....	268, 905	4, 934, 744	500	11, 720	34, 468
1930.....	809, 097	1, 501, 507		3, 895	15, 702
1931.....	228, 460	343, 306	2, 664	571	15, 136

Compiled from Foreign Commerce and Navigation of the United States, 1920-1930, and Monthly Summary of Foreign Commerce of the United States, 1931.

HOW TOBACCO IS SOLD

The methods by which growers dispose of their tobacco vary widely. Briefly summarized, they include: (1) The auction, or loose-leaf floor system; (2) the hogshead market; (3) country sales; and (4) cooperative marketing.

THE AUCTION MARKET

The auction, or loose-leaf market, is now the prevailing system of selling tobacco in all tobacco-growing territory from southern Ohio and Indiana southward, in which are included all States south of the Ohio and Potomac Rivers in which tobacco is grown on a commercial

scale (except for the cigar-leaf districts of Florida and Georgia). Reduced to its simplest terms, an auction floor is a place where growers may deliver their tobacco and have it auctioned off to the highest bidder, the bidders being buyers for manufacturers, dealers, exporters, or speculators. The system is of vast proportions, represents a large total outlay of capital and the employment of large numbers of people, and provides the means for selling more than a billion pounds of tobacco annually during the months from August to April.

The requirements of an auction warehouse are ample floor space on a single floor, and uniformity of lighting. (Fig. 32.) In meeting these primary requirements a type of architecture has been evolved which is so distinctive that an auction warehouse can be recognized



FIGURE 32.—View in a large modern auction warehouse showing large number of skylights

almost as far as it can be seen; the low roof, studded with skylights, characterizes it at once. Within is a spacious floor of planking or concrete, with a driveway down one or possibly both sides, usually 3 or 3½ feet below the floor level, to facilitate unloading. At the front end is the office, and usually about halfway down one side are the scales. There must be a drive on one or both sides where farmers may unload their tobacco and arrange it in neat piles on the trays, or baskets as they are known.

Farmers deliver their tobacco in wagons or trucks and build it up in orderly piles on the baskets. It is trucked first to the scales where a ticket is prepared showing the grower's name, the number of pounds, and the serial number of the lot, and containing spaces for indicating later the name of the buyer, his private grade mark, and the price per

pound. The tobacco is next trucked to its place on the warehouse floor where it is arranged in long rows.

The sales are conducted rapidly, taking place as a rule at a rate of about 300 piles per hour. Rates of 350 to 400 piles per hour are not uncommon.

The number of warehouses in a market varies. It is unusual to find a market so small as to have only one; the number on some of the larger markets runs as high as 12 to 15. Lexington, Ky., has 23 warehouses. On the more important markets, also, the warehouses contain more floor space, often with two sets of buyers and auctioneers working simultaneously on the same floor.

The auction scene varies but little, except as relative scarcity or abundance of tobacco makes bidding more or less spirited. There are times when low stocks or a short crop, or a combination of the two, results in keen competition among the buyers for manufactures, and more active buying, not only on the part of dealers who purchase for domestic and foreign clients, but by speculators who buy and resell.

The sales group consists of an auctioneer, the warehouseman or his representative, the buyers who may number from three or four to a dozen, the clerks who follow and record the sales, and usually a few farmers and hangers-on.

Bids are usually made in quarter-dollar intervals until the price per hundred pounds reaches \$15, although in some districts 10-cent bids are allowed when the price is very low. From \$15 to \$25 bids are in half dollars, and thereafter in dollars. The actual breaking points between the quarter, half, and dollar bids varies in different districts and markets. Each market establishes its own rules as to bids and rate of selling. The existence of rules as to bids promotes rapid sales, since a very slight sign such as a quick glance, a wink, etc., may be interpreted as a bid. The auctioneer accepts such a signal as a bid and runs the price up at once.

In small markets of two or three warehouses only one set of buyers is needed. The same buyers proceed from one floor to the next, and the warehouses rotate from day to day in having the first sale. Usually signs are hung out, "first sale," or "second sale." In larger markets, two or more sets of buyers operate simultaneously, and it is not uncommon for two sales to be in progress on the same floor.

The machinery of a tobacco market is well organized for rapid handling of the tobacco and quick payment to the growers. During rush times the wagons or trucks of farmers form long lines of approach to the warehouses, unloading from long before daylight until late at night. In order to accommodate the stream of deliveries, tobacco must be removed from the floor as rapidly as sold to make way for new lots for the following day's business. No sooner is a sale under way, therefore, than hurrying truckers move the tobacco to side doors where it is loaded on trucks for delivery to redriers or to the pack-houses of the different companies. Lots which have been bought in by the "house," or the sale of which has been rejected by the grower, are not removed. Such lots are usually dressed up and put back in line for resale. A grower has the right of rejection, which he exercises by turning his ticket—folding it with a crease, tearing off a portion, or otherwise mutilating it.

Bringing up the rear of every sale is a bookman and a clip man. The former draws off the information necessary to the accounting

records of the warehouse. The latter, armed with a pad of forms on a clip board, prepares a statement or "farmer's bill" covering the lot or lots sold by each grower. Each computes the total value based on the number of pounds sold, multiplied by the selling price of the respective lots. Their computations must agree. The clip man then hands the statement to a bill boy by whom it is presented to the office where the warehouse charges are computed and deducted. If desired, the farmer may immediately obtain a check for the net proceeds of the sale.

The warehouseman's business is to provide the facilities by which the producer's commodity may be offered for sale. In doing so he undertakes heavy expenditures in the form of capital investment and salaries. It is true that "the house" frequently bids in a basket of tobacco to avoid having a dissatisfied grower-customer and later sells it for its own account. Aside from such transactions, which are not always conducted at a profit, the warehouseman's revenue is derived from warehouse and selling charges, which vary in different States. In North Carolina, for illustration, the charges are regulated by law and are as follows:

Weighing fee, 10 cents per hundred pounds; auction fee, 15 cents per lot up to 100 pounds, and 25 cents per lot above 100 pounds; commission, $2\frac{1}{2}$ per cent.

Payment to the grower is made by the warehouseman, who issues a check against his own account. Settlements between the warehousemen and the buyers or the companies they represent are usually made daily.

The above represents the usual and proper relationship of the warehouseman to the selling and buying interests which meet on his floor. Occasionally, however, the warehouseman is associated more or less secretly with speculative buyers who seize opportunities to buy in lots at less than their true value, sharing in the profits of later resale. Just how widespread this practice is can not be said, but to the extent that it does exist it is vicious and should be prohibited. The effect is to give the warehouseman an interest in farmers' tobacco being sold at less than its true value, and is in direct violation of the relationship supposed to exist between the farmer and the warehouseman to whom he entrusts his tobacco.

ADVANTAGES AND DISADVANTAGES OF THE AUCTION SYSTEM

Numerous advantages and disadvantages pertain to the auction warehouse system of marketing, viewed from the standpoint of the tobacco grower. Chief among the advantages are the rapidity with which a crop, large or small, can be disposed of, and the promptness with which the grower can realize on it. Tobacco of almost any condition or quality can be disposed of, and, viewed in the aggregate, prices respond with a considerable degree of nicety to the prevailing conditions of world supply. A study of average prices shows a strong correlation between broad movements of prices and such factors as existing supplies, export demand, manufacturing requirements, and quality, which collectively constitute supply and demand.

The disadvantages of the system relate to those phases of auction selling which subject the individual grower to undue hazards in disposing of his crop. Notwithstanding the stability always inherent in averages and the degree with which average prices respond to the

conditions of supply and demand, the very conditions surrounding the sale result in some lots being sold perhaps for more than their worth, and others at much less than their worth. Such instances may be traced to a variety of causes, none fundamental but all contributing to a spirit of unrest and dissatisfaction among growers.

Among the causes that may result in tobacco's being sold below its proper average, or the current average for tobacco of the same grade or quality, may be cited the following:

VARIABLE LIGHT

By large numbers of skylights the effort is made to achieve a uniformly diffused light throughout the warehouse but this result is only partly obtained. Beginning at the center of the floor the lighting effects vary as the side walls are approached and from one side of the warehouse to the other, because of the varying angles at which the light strikes the skylights on opposite slopes of the roof, and the change from forenoon to afternoon sun. A variation in light may occur from one pile to the next, because of nearness of roof supports, skylights, etc. (Fig. 35.) Even more important is the change from a bright to a cloudy day. These variations in light may be relatively imperceptible, and yet they are seldom without importance in view of the part that fine gradations in color sometimes play in influencing the buyers' judgment. Tobacco that in one light may appear dull and lifeless may present an opposite appearance under more favorable conditions.

WEATHER

Tobacco is remarkably responsive to weather conditions. Exposed to dry atmosphere it quickly becomes so brittle as to break up with handling. With a change to humid weather the leaf becomes soft, pliable, and elastic. If the weather turns cold, the tobacco that was soft and pliable quickly becomes hard and rustles to the touch unless it is in very high order. Buyers are accustomed to these changes in weather and are trained to allow for the resulting changes in the physical condition of the tobacco, yet errors in judgment are unavoidable. The changes in physical condition effect changes in the appearance of the tobacco with respect to such factors as color, luster, and "life," and errors in appraisal may therefore arise with reference to the texture or other characteristics appraised by the sense of touch, as well as those appraised by the eye.

RAPIDITY OF SALES

Rapidity of sales causes several kinds of error. When from 300 to 400 or more lots are sold in an hour the number of seconds devoted to a given lot is small, and the conditions are such that not all buyers have ready access to the tobacco. Buyers usually pull several hands of tobacco from the lot at a time, hold it in different angles to the light, smell it for mold, test it by touch for body or thickness, gum, and stretch. Necessarily some buyers have better access to the lot than others. Not all buyers are on the lookout for the same grades of tobacco. The lot being sold may be of excellent quality for certain purposes but not of the character desired by the buyers closest to it though very much desired by other buyers down the line. If, by reason of his inability to make a close examination of the tobacco

being sold, such a buyer fails to recognize its true character and value, then no criticism attaches to him if his bid is needlessly low, but a severe loss may have been inflicted upon the grower.

Similar results may come from trivial things. Men in the tobacco trade have remarked that a water boy may cause one or two important buyers to turn from the sale momentarily, and in that short interval some farmer's tobacco may be knocked down for much less than its real value.

In justice to the buyers it should be said that these variations in price are as a rule inadvertent. Many times when their attention is called, after the sale, to what was manifestly an error in buying, resulting in an unduly low price, they voluntarily raise the price.

That such errors occur and are fairly numerous is evidenced on every market by the number of growers who reject a sale, put the tobacco back in line, and resell at a higher price. Instances of the same tobacco sold at two, three, or even four times its first price are common and are striking evidence that undue hazards beset the tobacco grower in marketing his crop.

On the other hand it must be said that frequently farmers reject sales in the mistaken belief that the price is below the market for the grade involved. Often the resale price is lower than that offered on the first sale. It is generally true that when the prevailing market average is reasonably satisfactory to growers—high enough, that is, to encourage equal or increased acreage the following season—growers will accept without complaint an offer on a particular lot that is in line or is believed to be in line with the average price paid for other tobacco of the same grade. For example, assuming a general average for all grades of type 11, old-belt flue-cured tobacco, of 18 cents per pound, a farmer may deliver some tobacco of low grade that sells for only 10 cents per pound. If he feels that 10 cents is about the average price paid for other tobacco of the same grade, he is much less likely to complain than if he feels that his tobacco is better than the general run of 10-cent tobacco. But growers have not until recently had the opportunity to obtain an authentic, unbiased determination of grade, or specific information as to ruling prices for the various grades. This consideration, together with the hazards of tobacco marketing already alluded to, has led to the development of a new phase in auction warehouse marketing, namely, a governmental tobacco grading service. (P. 86.)

Among the disadvantages of the auction system of marketing are the heavy buying expenses entailed. The larger manufacturers, in particular, must maintain extensive corps of buyers and other employees in the field during the marketing season. There are approximately 115 auction markets for flue-cured tobacco alone. Those in the extreme southern end of the belt open first and have closed by the time markets open in the northern end of the belt. Nevertheless, during the major portion of the marketing season from 60 to 80 markets are in operation simultaneously in the flue-cured districts alone, with from 1 to 5 or 6 sets of buyers on each. As a rule the larger buying interests are represented on each market by as many buyers as there are sales. On each market, also, they have a bookkeeper and a stockman to handle the accounts and take charge of the tobacco. Each company has its circuit riders, scattered throughout the territory, who supervise the buyers. These items of expense

together with the capital and operating costs of a multitude of auction warehouses undoubtedly comprise an impressive total overhead expense in the marketing of tobacco.

Statistics for an accurate analysis of buying costs under the auction marketing system are not available, but the conclusion seems justified that the costs are relatively high. The large number of small markets, which during much of the season operate for only a portion of the day, gives weight to this conclusion. Under such conditions the salaries and expenses of buyers represent a mounting bill of expense that may be disproportionate to the volume of tobacco purchased.

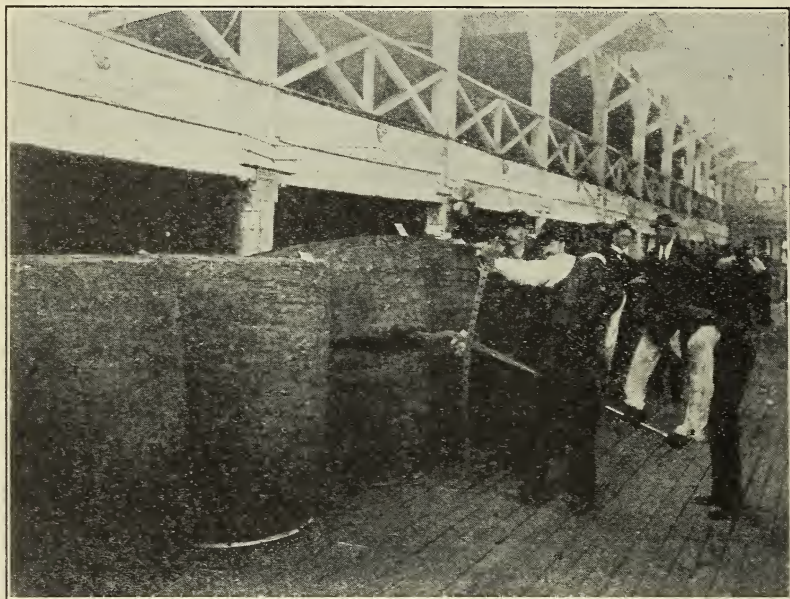


FIGURE 33.—Method by which samples of tobacco are withdrawn after removing the cask from a hogshead of tobacco. This photograph was made in Louisville, Ky., a number of years ago when that city was an important hogshead market. A similar method of sampling prevails in Baltimore

This leads to the consideration of another aspect of the auction market. To reduce buying expenses it is a common practice for companies to place buying orders. This is more especially true on the smaller markets. Thus a company, instead of incurring the expense of maintaining its own buyer on a certain market, places a buying order with a leaf dealer who has a buyer at that market. This buyer bids not only on behalf of his own employer but for possibly half a dozen other companies.

Were it not for multiple buying orders it is probable that many of the smaller markets would cease to operate and the existing trend toward elimination of small markets would become more pronounced. Viewed alone, however, multiple buying may become an abuse which is hurtful to the interests of the growers by reason of the fact that competition in buying is diminished.

THE HOGSHEAD MARKET

Previous to the development of loose-leaf sales it was customary for traders and growers to pack their tobacco in hogsheads (an operation known as prizing) in which form it could be readily shipped or hauled to market. At the market the hogshead was removed from the tobacco, and samples were drawn by official inspectors. To obtain the samples from the solid mass of a hogshead, breaks¹² were made at two to four places and the samples were drawn and laid on top for the inspection of buyers. The hogsheads were then recoopered and the tobacco was sold either at open or closed bid auction. The method of "breaking" for the withdrawal of samples and a hogshead sale are shown in Figures 33 and 34.



FIGURE 34.—An old-time view of an auction-break sale in the Louisville hogshead market

Open auction hogshead markets flourished in Virginia, North Carolina, Ohio, Kentucky, and Tennessee. They were few in number as compared with the loose-leaf auction markets that have taken their place. As it was necessary to transport tobacco over long distances for sale, prizing was expedient. Louisville, Ky., was the most important of the hogshead markets and was at one time the largest tobacco market in the world, establishing records for volume of tobacco handled that probably have not been surpassed. This was the last market of its kind to surrender to the newer sales method (the loose-leaf auction), which occurred during the winter of 1929-30. Cincinnati, Ohio, was an important tobacco market during the period of the hogshead system but is no longer recognized as a tobacco market.

¹² The term "breaks" remains as a part of tobacco-market terminology, although the practice by which it arose has disappeared from farmers' markets except at Baltimore. A common expression at loose-leaf markets is "Blank pounds of tobacco went over the breaks to-day."

The closed-bid auction prevails only at Baltimore, where it has undergone practically no change since early colonial times. During the early years of the colony the warehouses were located at several convenient points in the tobacco-growing territory, but these small markets were later superseded by the Baltimore market.

The tobacco is prized on the farm and shipped to Baltimore under consignment to a broker or to the cooperative marketing association. In either case the hogshhead is sampled by State inspectors, and the samples are sealed and turned over to the consignee for display at his place of business. The buyers make the rounds of these brokerage offices and submit sealed bids on such tobacco as suits them. The bids are opened at the close of the day.

A similar procedure once prevailed in Richmond, with the exception that the warehousing and inspections were conducted by a tobacco board of trade rather than by State officials.

Some Maryland tobacco is sold outright by the growers to local dealers known as transfer buyers, by whom it is prized and sold in Baltimore as described above.

COUNTRY SALES

In most of the cigar-leaf-tobacco districts the sale of the product is consummated on the farm. This may be accomplished by contracts entered into during the growing season between the growers and buyers, or by sales negotiated after the tobacco is cured or is in the process of curing.

The buyer may be an independent packer or his representative, or the representative of one of the larger cigar manufacturers. Although competitive bidding exists in the sense that various buyers inspect the tobacco and make offers, the competition is less apparent than is true in the territory where the auction-sales method prevails. The buyers ride over the tobacco district periodically during the growing season and observe the progress of individual crops as well as the changes in acreage and crop prospects as compared with previous years.

The practice of "riding" the territory during the growing season is followed in all tobacco districts, whether or not all or a portion of the tobacco is purchased at the farm. The circuit riders and buyers of the large manufacturing establishments, heads and buying staff of leaf-tobacco establishments, and small independent packers, all go to the fields and form their own judgment of the probable size and quality of the crop. On the basis of opinions thus formed, coupled with the trends and character of domestic consumer demand for manufactured tobacco products, stocks of leaf tobacco already in the hands of dealers and manufacturers, and the state of foreign demand for leaf tobacco are based the purchasing plans and price scales that will govern the returns to growers when their product is finally offered for sale.

Contracts for the purchase of tobacco at the barn may be at a stipulated price "around," that is, for all grades alike, or, as is more common in the cigar-leaf districts, so much per pound for the grades commonly referred to by various names which include (1) the grades suitable for cigar-manufacturing purposes, and (2) grades suitable only for the scrap chewing, known as stemming grades. Such contracts ordinarily contain stipulations by which deductions from the

agreed price may be made for excessive quantities of damaged leaf present when delivery is made. (See discussion Number of Cigar Manufacturers, p. 84.)

Country buying is not restricted to cigar-tobacco districts. In some districts producing the so-called manufacturing and export types (types used in the making of smoking, chewing, and snuff tobacco both at home and abroad) farm or barn-door buying is important. This is notably true in the dark-fired districts of Kentucky and Tennessee. Here the purchases are made mainly by large concerns seeking to secure the choicest crops at advantageous prices. To some extent, in these districts and in portions of the Burley district, purchases of this character are made by speculators who resell the tobacco over the floors of loose-leaf warehouses.

Not all of the tobacco produced in the cigar-leaf districts is disposed of by simple sales contracts referred to above. Some of it, especially in the Florida and Georgia shade tobacco districts, is placed in the hands of dealers or packers by a contract under the terms of which the dealer acquires a half interest in the crop upon payment of a stipulated price per pound. The dealer then sorts, sweats, and packs the tobacco in bales or cases, and sells it to the best advantage. The costs of these operations are deducted from the gross returns, the difference being divided equally between the grower and dealer.

A third procedure is occasionally followed by growers who believe they have a superior crop and that the market will improve. This is to have an experienced packer sort, sweat, and pack the tobacco for a stipulated fee. The tobacco is then stored by the grower for future sale.

COOPERATIVE MARKETING

The history and character of cooperative marketing presents a subject too broad for more than a brief reference here.¹³

Over a long period of years attempts have been made by tobacco growers to improve, by cooperative methods, the conditions under which they dispose of their products. Some of these attempts have been successful; others have been short lived and, judged by immediate results, have ended in failure, if not disaster. Viewed broadly, however, they have contributed much to a proper understanding of the problems and fundamental requirements of successful organization among growers, and substantial progress has been made in solving those problems and meeting those requirements.

The underlying principle of a cooperative tobacco-marketing association is such a banding together of growers as will make it possible to set up a compact business organization for receiving the tobacco produced by the member growers, for pooling it by grades, and either selling it or storing for sale when marketing conditions are more favorable. Figure 35 represents a typical scene at an association receiving station.

Since the cooperative must compete directly with existing marketing machinery, it follows that success will depend upon its ability to perform the marketing functions at less expense than is entailed by other methods. This involves the question of efficiency of the

¹³ For a more complete discussion of the principles of cooperative marketing, see the following references: 4, 5, 6, 9, 10, 13, 14, 16.

business organization itself and the question of volume of tobacco handled by which the overhead expense can be held to a minimum in cost per hundred pounds.

In former years the central idea of cooperative tobacco marketing was a monopolistic control of supply whereby it would be possible to dictate prices. This factor alone was frequently instrumental in causing the failure of the movement, for it was the cause of activities on the part of the tobacco trade in general to defeat cooperative marketing. The immediate result was that many growers who were not members of the association received such favorable prices for their tobacco as to stimulate expansion of production. This not only tended to defeat the attempt at monopolistic control, but caused dissatisfaction among the association members who could not avail themselves of the immediate and cash prices. The



FIGURE 35.—Farmers delivering tobacco to a cooperative receiving station

forces thus set in motion have usually effected disintegration of the cooperative movement, accompanied at times by bitter animosities and bloodshed between members and nonmembers. Failure of farmers to understand what cooperative marketing can and can not do and inefficient management have also been contributing factors in the failure of some organizations.

One of the greatest advances made in cooperative tobacco marketing, therefore, was the abandonment of the principle of monopolistic control of the crop and an arbitrary scale of selling prices. In its place has arisen the concept of a sufficient volume of tobacco controlled by the association to absorb the overhead costs at low cost per unit, and selling prices based upon negotiation, consideration being given to market conditions in general.

The problems of cooperative marketing are many and varied. It is an intricate business enterprise entailing large investments

of capital, business operation on a comprehensive scale, and dealings in a commodity differentiated into many grades, characteristics, and uses. The requirements for success consequently involve capable business direction combined with technical knowledge of a high order. Recognition of the exacting nature of these requirements has increased with the passing years. Mistakes have pointed the way to a better understanding of underlying principles, and progress in the science of cooperative marketing is being made.

A recent development in cooperative marketing as it pertains to tobacco is Federal grading of members' tobacco on delivery and strict adherence to United States standard grades. Grading is a necessary preliminary to pooling the tobacco according to quality, making payment to members, and negotiating sales. In the past,

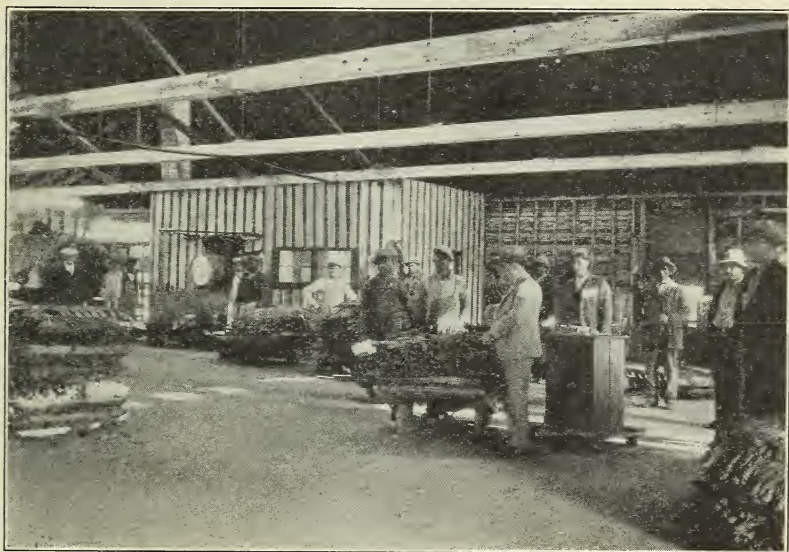


FIGURE 36.—Federal-State tobacco grader at work in a receiving station of a tobacco growers' cooperative marketing association. Each lot of tobacco is trucked past the Federal-State grader who inspects and labels it according to United States standard grades. The tobacco is then assembled by grades, re-inspected for error, and sent to the re-drier

associations have as a rule employed their own graders, and criticisms have been made of favoritism shown in grades assigned to tobacco delivered by directors or other prominent members, and of other alleged abuses in the grading work.

The grading service is performed under the terms of a written agreement, the provisions of which place responsibility for the selection, pay, and supervision of graders upon the United States Department of Agriculture, or upon the Federal and State departments of agriculture, if the grading service is handled jointly. The association makes reimbursement for the cost of the service, but no grader owes his selection to the association or receives orders from its officials. The tobacco graders are thus removed as completely as possible from influences calculated to sway their judgment in grade determinations. (Fig. 36.)

In 1931 the grading of tobacco for the northern Wisconsin tobacco pool was placed in charge of the United States Department of Agriculture, acting cooperatively with the Wisconsin Department of Farms and Markets. (Fig. 37.)

More recently three cooperatives have organized in the black patch of Kentucky and Tennessee. The grading function is being performed by the United States Department of Agriculture in cooperation with the Tennessee Department of Agriculture and the Kentucky College of Agriculture.

MARKETING PERIODS

The marketing season for tobacco varies for the different types, and to a minor extent from year to year. Figure 38 shows graphically



FIGURE 37.—Opening a bundle of cigar tobacco at Viroqua, Wis., for inspection and grading

the approximate marketing period for types sold at established markets. Cigar tobacco grown in Georgia and Florida is delivered to the buyers in the late summer, but that grown in the northern districts is delivered to buyers during the winter. The time of delivery is dependent somewhat upon the extent of buying activity, and to a further extent upon weather conditions. Preceding delivery the tobacco must be stripped, sorted according to size and grade, tied in hands, and bundled. Such handling requires mild, humid weather—a “damp” as it is known in New England, a “season” as it is known in western districts.

Baltimore is the only year-round market. The selling season begins about January 1 for the preceding year's crop and reaches its peak during the summer months.

REVENUE FROM TOBACCO

Tobacco ranks second among the sources of internal revenue of the United States Government, and third among all sources of ordinary revenue. The revenue from taxes on corporation and individual income represents between 75 and 80 per cent of all internal revenue collected by the Government, while the income from taxes on manufactured tobacco products is approximately 15 per cent of the total. During the last five years customs have surpassed tobacco as a revenue producer by approximately 50 per cent. Table 32 shows the taxes collected by the United States Treasury Department on various classes of tobacco products.

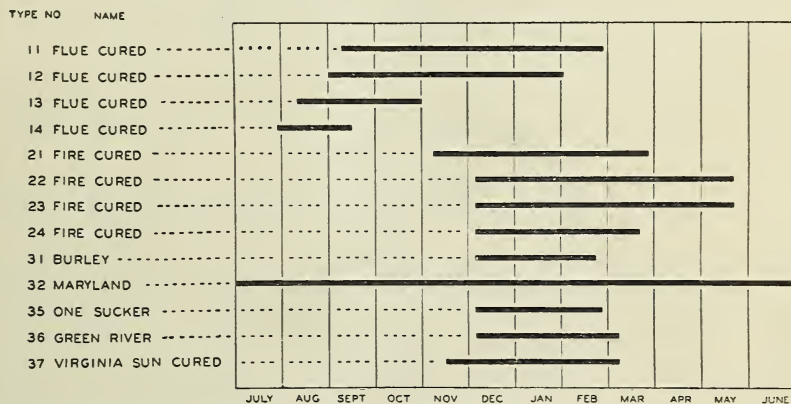


FIGURE 38.—Approximate marketing season for various types of tobacco sold at established markets. Aside from type 32, for which there is at Baltimore a year-round market, the marketing season opens late in July, beginning with type 14. From then until May or later, in one district or another, the voice of the auctioneer may be heard.

TABLE 32.—Internal revenue received from tobacco products, United States, 1915-1931

(In thousand dollars: i. e., 000 omitted)

Year ended June 30	Cigars		Cigarettes		Chewing and smoking	Snuff	Total
	Large	Small	Large	Small			
1915.....	21, 174	729	57	20, 926	32, 198	2, 387	77, 471
1916.....	22, 171	711	78	26, 333	33, 379	2, 654	85, 326
1917.....	24, 800	713	99	38, 127	35, 661	2, 830	102, 230
1918.....	30, 034	876	121	66, 371	47, 485	4, 049	148, 936
1919.....	36, 086	925	162	90, 441	57, 491	5, 134	190, 239
1920.....	55, 424	992	232	151, 262	74, 664	6, 949	289, 523
1921.....	51, 077	1, 014	356	135, 053	59, 331	5, 795	252, 626
1922.....	44, 184	969	118	150, 128	66, 342	6, 948	268, 689
1923.....	47, 273	865	131	182, 585	68, 858	7, 175	306, 887
1924.....	45, 205	756	126	203, 651	66, 700	7, 005	323, 443
1925.....	43, 347	731	110	225, 033	66, 922	6, 754	342, 897
1926.....	38, 319	533	127	254, 825	67, 711	6, 918	368, 433
1927.....	23, 545	353	87	278, 929	65, 070	6, 908	374, 892
1928.....	22, 879	301	76	301, 753	62, 775	7, 461	393, 245
1929.....	22, 549	323	83	341, 952	61, 159	7, 127	433, 193
1930.....	21, 141	302	65	359, 816	60, 098	7, 542	448, 964
1931.....	18, 025	271	46	358, 915	58, 377	7, 190	442, 824

Compiled from annual reports of the Commissioner of Internal Revenue.

NUMBER OF CIGAR MANUFACTURERS

A pronounced change has taken place in the cigar-manufacturing industry and is still in progress. In the early years of the industry the manufacturing units were small, being mainly a family enterprise. There has been a steady trend toward fewer of the small manufacturing units, with a larger percentage of the total output of cigars being manufactured by very large companies.

In 1922 the number of cigar manufacturers was 12,105. Of this total, 10,775 were small manufacturers whose individual output was less than 500,000 cigars each for the calendar year. Their combined output was 752,097,246 cigars or 11.19 per cent of the total number of cigars made by registered manufacturers that year (2, *p. 114, Table 17*). That is to say, in 1922 when the transition in the cigar industry was already well advanced, 89 per cent of the cigar manufacturers in the United States made 11.19 per cent of the cigars. In that year 7 manufacturers, or less than 0.1 per cent, made 790,162,872 cigars, or 11.75 per cent of the cigars. The largest and the smallest groups were about even in total output.

In 1930, 6,976 manufacturers, more than 92 per cent of the total number, manufactured less than 500,000 cigars each. Their combined output was 307,892,245, or 5.22 per cent of the total number of cigars manufactured at registered factories during the year, whereas the number of manufacturers whose individual output exceeded 40,000,000 had risen to 35, with a combined output of 2,935,290,523 cigars, or 49.8 per cent of the total (3, *p. 158, Table 54*). This rapid process of centralization of the cigar industry has to some extent been dependent upon, or possibly a result of, the development of cigar-making machines. It has been attended, also, by notable changes in conditions surrounding the marketing of cigar tobacco, for whereas in former years practically all such tobacco was sold by growers to independent dealers and packers, who in turn sold it to a host of small manufacturers, a larger and larger fraction of the crop is now sold by growers directly to the buyers of large manufacturers.

Table 33 classifies cigar manufacturers according to output.

TABLE 33.—*Number of cigar manufacturers, classified as to number of cigars manufactured, 1921-1930*

Calendar year	Number of manufacturers putting out—							Total
	Under 500,000 ¹	500,000 to 1,000,000	1,000,000 to 5,000,000	5,000,000 to 10,000,000	10,000,000 to 20,000,000	20,000,000 to 40,000,000	Over 40,000,000	
1921.....	13, 149	510	620	178	85	25	11	14, 578
1922.....	10, 775	471	557	169	84	42	7	12, 105
1923.....	9, 282	420	584	177	96	34	12	10, 605
1924.....	8, 755	339	486	166	77	39	15	9, 877
1925.....	9, 789	282	434	152	77	34	18	10, 786
1926.....	9, 281	281	393	147	74	42	23	10, 247
1927.....	8, 470	243	342	123	69	37	28	9, 312
1928.....	7, 997	222	311	87	69	39	28	8, 753
1929.....	7, 694	188	276	91	63	29	37	8, 378
1930.....	6, 976	148	244	72	49	28	35	7, 552

¹ These figures are further subdivided as follows: Under 250,000—1927, 8,084; 1928, 7,699; 1929, 7,428; 1930 6,752; 250,000 to 500,000—1927, 386; 1928, 298; 1929, 266; 1930, 224.

UNITED STATES TOBACCO STANDARDS

The development of official standard grades for tobacco represents the first attempt to introduce into the language of the tobacco trade a descriptive terminology of the many grades of leaf tobacco that could be universally applied. Each manufacturer, exporter, and dealer in tobacco has his own system of grades, noted by arbitrary grade marks, developed to fit his own needs and used in his own transactions. No two of these private systems of grades agree in number, definition, or grade names. None of them, therefore, meets the requirements for universal application, which may be stated thus: A system of tobacco grades, to be suitable for general trade purposes, must be based upon definite characteristics of leaf tobacco and designed to express the various combinations of those characteristics.

There are 26 different types or kinds of American-grown tobacco. These types have been clearly standardized by the United States Department of Agriculture and to each of them has been assigned a type number for reference and identification purposes. In each type there are three major grade factors—(1) group, (2) quality, and (3) color. The group represents the very broad divisions of quality such as are recognized by the trade and expressed in such terms as wrappers, leaf, cutters, lugs, scrap, and nondescript. The trade names for groups vary in the different types and tobacco-producing districts, but in the tobacco standards these groups are all uniformly designated by the letters A, B, C, X, S, and N. For example, group X represents the same general group of grades in all types. This same general quality of tobacco, however, is known in the trade in different type districts by a multiplicity of names, including such names as lugs, ground leaves, flyings, spods, trash, seconds, farm fillers, and stemming.

Each group of a type is separated into from three to seven qualities. A number following the group letter is used for the particular quality of the group. For example, A1, A2, and A3, represent the first, second, and third quality of wrappers; B1, B2, B3, and B4 represent the first, second, third, and fourth qualities of leaf, etc. The group and quality factors taken together form the basic grades of all types. The word "leaf" has a special significance in trade terminology apart from its general use in referring to leaf tobacco. That is to say, the leaves from a certain portion of each stalk are of heavier body than those lower on the plant. These heavy leaves are commonly referred to as leaf or leaf grades. In some types the thinner leaves are referred to as cutters.

In most of the types the color of the leaf is of prime importance and must be given proper consideration in the grade. In such types the color is indicated by letters following the basic grade symbols. The gradations in color are uniformly designated as L, light; F, medium; D, dark; M, mixed other than green mixed; G, green and green mixed. The letters and figures used in the three grade factors (group, quality, and color) are combined in the order given and together afford the designation of each individual grade; thus, A1L indicates wrapper tobacco of first quality in light color, B3D indicates leaf tobacco, third quality, and dark color.

In addition to these three grade factors, it is sometimes necessary to indicate the length of leaf as part of the grade. This is done by

adding the fourth factor. The fourth or length factor of the grade is expressed by a number corresponding to one of the United States size numbers that have been established for gaging the length of tobacco leaves. The standard tobacco sizes have been so arranged that the length can be expressed by a different series of numbers with such degree of accuracy as may be necessary for a particular type of tobacco. One of these series of sizes provides for a range in length of 1 inch. Another series provides for a range of 2 inches, while other series provide for ranges of 4 inches, 6 inches, and 8 inches. Size 44 is one of the sizes with a 4-inch range and indicates tobacco between 16 and 20 inches in length. When necessary to show the length or size in connection with a grade it is expressed: "Grade A1L, U. S. size 44," or briefly, "Grade A1L44."

The standard grades form the basis of an improved method of reporting stocks of leaf tobacco held by dealers and manufacturers. Such stocks in the past have been reported merely by type totals, or the totals of two or more types combined. Beginning with the report for April 1, 1929, dealers and manufacturers have been required by law to make a separation of stocks by groups of grades, or A, B, C, X, S, and N. Since the utility of tobacco for different manufacturing purposes is in general indicated by the group of grades to which it belongs, the statistics in this amplified form will serve a useful purpose, not only to interested members of the trade but to economists engaged in the interpretation of statistics for the benefit of growers.

TOBACCO GRADING SERVICE ¹⁴

Standard grades have been established for many types of tobacco and are utilized in the activities of the tobacco grading service maintained by the Bureau of Agricultural Economics in cooperation with State departments of agriculture or similar administrative units.

The function of the tobacco grading service, in so far as the auction markets are concerned, is to inspect the tobacco delivered by farmers and label it according to its grade before the sale takes place. The grade is announced to the buyers, so that they as well as the growers are apprised of the grade and quality of the tobacco according to the United States standards.

As a part of this service the sales of graded tobacco are analyzed and reports are issued daily that show the average prices paid for each grade. By furnishing the grower information on the grade of his tobacco and the average selling price, he is enabled to judge intelligently whether the price is reasonable and whether he should accept the sale. It is found that at times, the mere announcement of the official grade of given lots of tobacco enhances the prices paid to the growers.

Tobacco grading on the basis of United States standards is of such recent development that its ultimate effect on marketing methods can not be predicted with certainty. It has been successfully applied in districts in which the auction-sales system prevails and is in use by three tobacco cooperatives, and to a very limited extent quotations are being made in foreign trade in tobacco based on standard grades.

¹⁴ For more detailed statements in reference to the tobacco grading service and United States tobacco standards write to the Tobacco Section, Bureau of Agricultural Economics, U. S. Department of Agriculture, Washington, D. C., for mimeographed material.

SOURCES OF STATISTICS ON TOBACCO

The governmental agencies publishing statistics on tobacco and the character of the information are as follows:

UNITED STATES DEPARTMENT OF AGRICULTURE, BUREAU OF AGRICULTURAL ECONOMICS

(1) *Tobacco Section*.—(a) Quarterly reports on stocks of leaf tobacco in hands of dealers and manufacturers, published as of January 1, April 1, July 1, and October 1. Holdings are reported separately by types, in detail as to new crop (tobacco of the last five years' production) and old crop (tobacco of previous production); unstemmed and stemmed; and for each of the above categories the amounts by major groups of grades. Holdings of foreign-grown tobacco are reported as "foreign cigar leaf" and "foreign, other than cigar leaf." Stocks of foreign tobacco are not separated into groups of grades.

(b) Market news service on tobacco, maintained in each of the major type districts served by the auction-marketing system. The service includes daily price reports on 10 or more representative grades, accompanied by brief market comments, and weekly reports on all grades, with more extended comments on foreign and domestic developments bearing on the types of tobacco concerned.

(2) *Division of Crop and Livestock Estimates*.—Reports on tobacco in March, and monthly from July to December. The March report is on the farmers' intentions to plant. The July report is on acreage and condition, by types and States. Subsequently during the growing season reports are issued on the condition of the crop, by types, with forecasts of production. The October report is on probable yield, and November on harvested yield and quality. In December acreage figures are revised, and a report is published on acreage, production, and value.

In addition to the above reports issued in Washington, the agricultural statisticians of the Division of Crop and Livestock Estimates, located in the tobacco-producing States, publish monthly reports of a similar character, though in some instances in more detail.

(3) *Foreign Agricultural Service*.—Reports on tobacco production in foreign countries.

UNITED STATES TREASURY DEPARTMENT, BUREAU OF INTERNAL REVENUE

(1) *Tobacco Section*.—(a) Monthly reports on withdrawals of stamps for manufactured tobacco products. (b) Annual report of the commissioner, manufactures of tobacco products, leaf tobacco used in manufactures, internal revenue collected, etc.

(2) *Customs Service*.—Imports of leaf and manufactured tobacco from foreign countries, or received from insular possessions.

UNITED STATES DEPARTMENT OF COMMERCE, BUREAU OF FOREIGN AND DOMESTIC COMMERCE

Tobacco Division.—(a) Monthly reports on exports of leaf and manufactured tobacco, by types and countries of destination. (b) Weekly reports on tobacco marketing conditions abroad.

STATE MARKETING REPORTS

Reports on the sales of leaf tobacco at auction markets are published as follows:

Maryland.—Monthly, on pounds sold and average price. By the State board of agriculture, Baltimore.

Virginia.—Monthly during marketing season, by types and markets, on pounds sold and average price. By the State department of agriculture, Richmond.

North Carolina.—Same as above (Virginia). By the State department of agriculture, Raleigh.

South Carolina.—Same. By the State department of agriculture, Columbia.

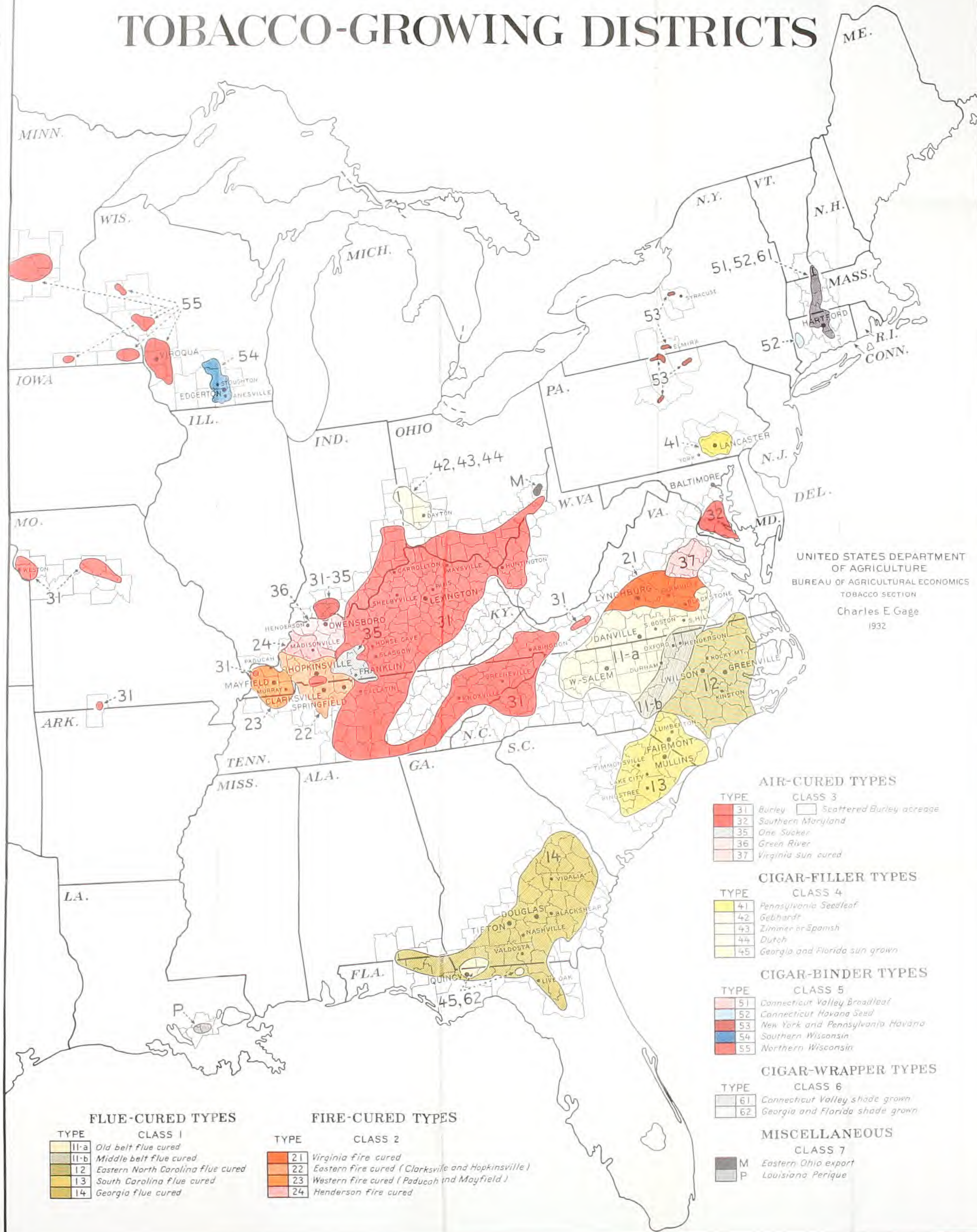
Georgia.—Same, except weekly instead of monthly. By the State department of agriculture, Atlanta.

Kentucky.—Same as Virginia, except published throughout the year. By the commissioner of agriculture, Frankfort.

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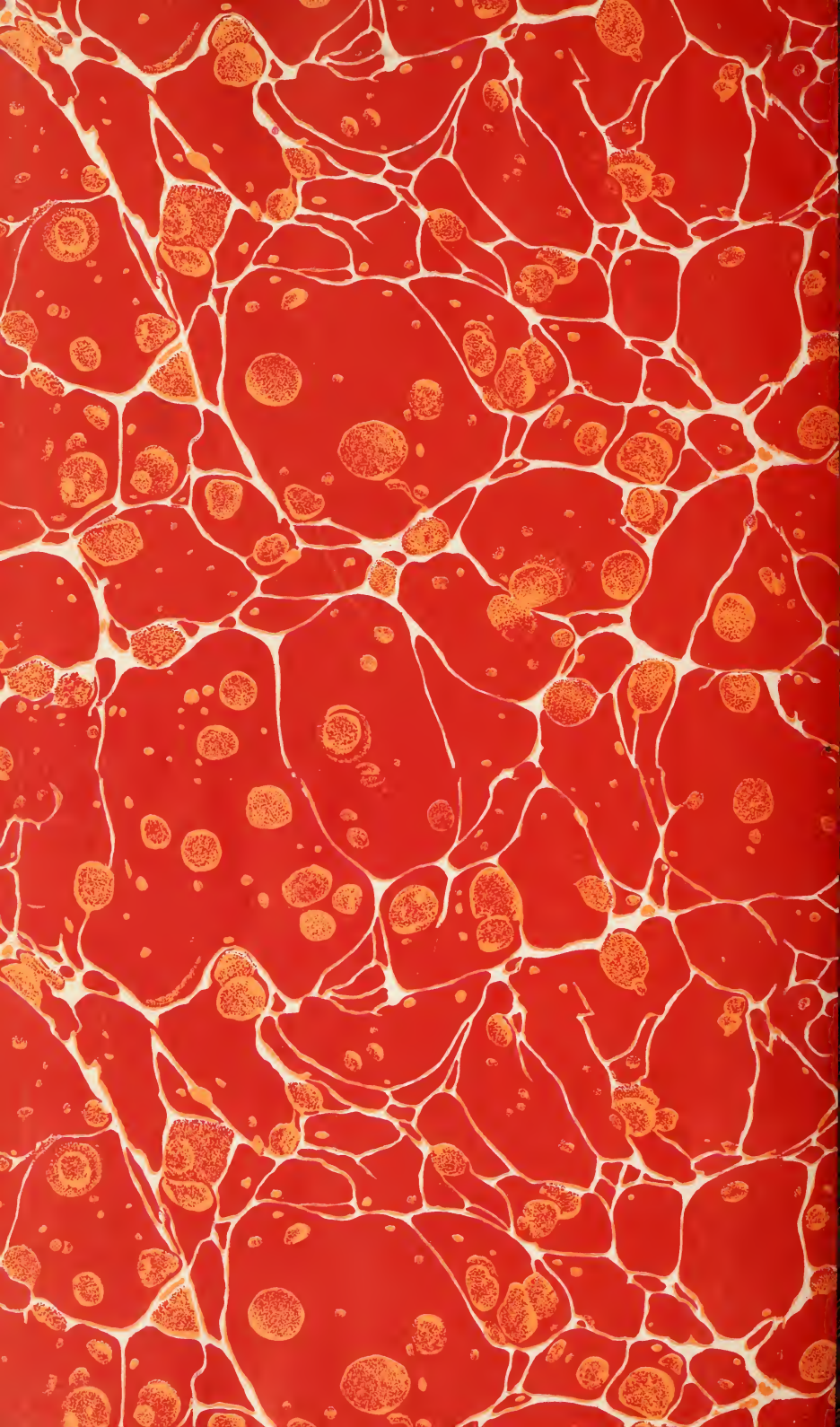
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TOBACCO-GROWING DISTRICTS



UNITED STATES DEPARTMENT
OF AGRICULTURE
BUREAU OF AGRICULTURAL ECONOMICS
TOBACCO SECTION
Charles E Gage
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